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Extracts from our Correspondence.

BEST CROP FOR SOILING CATTLE.—The following extract of a letter from LEWIS BAILEY, Esq., of Fairfax county, Va., confirms the opinion we have long held, that Indian corn is one of the best, if not the best crop farmers can grow for soiling purposes. Mr. B. says:

"You speak of soiling in the last number. Allow me to say that after an experience of fifteen years, having followed it every summer for my milch cows and horses—the former fed night and morning in the stables; the latter kept in the stables all summer—all fed on green corn (sown broadcast) as soon as it is large enough to feed, and continued until the frost compels us to cut and cure it for winter feed—that I think Indian corn far preferable, and much more productive than anything I have seen cultivated or used for soiling. I have tried peas of several kinds, tares, lucerne, oats and millet, and most other crops cultivated in this country for this purpose, but must say that I give the preference to southern corn. I commenced in Virginia, on a very poor farm, and now think I am very much indebted to my practice of soiling for the improvement of my farm."

A NEW GRASS.—In an answer to Mr. C. COLBY, in the Country Gentleman of March 20, Mr. B. V. IVERSON, of Columbus, Geo., writes us as follows:

"I have a winter grass, the botanical name of which is "Ceratochloa Breviaristata," or "short awn Horn Grass," which I feel confident will suit his soil, both for the grazing of stock, making nutritious hay, and as a fertilizer. In his State, this grass cannot be used by stock while covered with snow, but it can be so cultivated as to furnish excellent grazing before snow falls, and after it is gone. As a hay grass, the snow would not be in its way. This grass will stand a greater degree of cold than either wheat, rye or oats. It will suffer him to cut it four times for hay, and then yield abundance of seed, ripen and sow it without any trouble to him, and be ready to return a large coat of manure to his field by being turned under. To do this, the land must be very rich. Each cutting of the grass will give him more hay, in weight, than any grass he ever saw; and when the four are added, he will be satisfied. There is a particular way to manage it to effect this object. To graze stock and as a fertiliser, there is also a particular mode to be observed in its cultivation. This grass is *very sweet*, and I can furnish plenty of testimony (if required,) that stock of every kind and poultry, prefer it to any other, not excepting even barley. They will not touch timothy, clover, blue grass nor barley, when they can get this. This is emphatically a *winter grass*, and grows only in the fall, winter and spring."

Though we know nothing of the above grass, we should be disappointed if it equaled the recommendations of our correspondent. It is undoubtedly worthy of trial, and we hope some of our readers will test its merits, as Mr. IVERSON informs us that he will be able to furnish the seed the coming summer, with directions for its culture.

"HOW TO PREVENT BIRDS FROM PULLING CORN."—The method which I have practiced for some years past, has been to stir the corn in warm tar, about blood warm, until the outside of the kernel is covered with a thin coat of tar. Care should be used not to make the tar so hot that when spread on the kernel, it will form a hard coat, impervious to moisture. Should this be the case, the corn will not germinate, and the preventive in this case will be as bad as the evil which you wish to obviate. Two table spoonsful of tar to a quart of corn, is a sufficient quantity. Stir in with the corn, plaster or wood ashes, for convenience in dropping. I have never known but few hills of corn destroyed, by birds or squirrels, where the corn was prepared in this way.

The grain should be covered deep with loam, in order to be certain of its coming up.

The corn might be soaked in *saltpetre water*, previous to rolling in tar, in order to facilitate its coming up. CALVIN ALLYN. *Uncasville, Conn.*

GOOD FARMING.—A correspondent wishes to refer our readers to the farm of ALPHEUS MORSE of Eaton, Madison Co., as an example of good farming. It consists of 125 acres, bought six years since, and Mr. M.'s improvements consist in the improvements in fencing—the repair and addition of farm buildings, the perfection of which, the barns especially, cannot easily be excelled at an expense warranted for a farm of that size—the stocking the farm with Short Horn cattle,

which, by the way, are soiled or fed with green food during the summer. Our correspondent says:

"I shall not here go into particulars, hoping that many of your readers may at some future time have an opportunity of seeing them; also of learning as I did from Mr. MORSE's own lips, his mode of using fertilizers, and saving as well as making manures. He has an enclosed shed into which he wheels all the droppings from his stock, and another similar shed into which he carts swamp muck, and this is so situated as to receive all the drain from the yard. In addition to this, he uses about twenty tons of plaster yearly. He also informed me that he was dressing his farm with lime at the rate of forty bushels of stone lime to the acre, which is sufficient for ten or twelve years. I think that he spreads it on the ground, and then plows it under. A portion of the plaster is used for littering the stables during winter, and is carted out with the manure"

CUMBERLAND COUNTY, N. J.—Cumberland County is perhaps as well situated for farming purposes as could be desired; bounded on one side by Delaware bay, and intersected by three large creeks, making the facilities for the transportation of produce easy and cheap, either to New-York, Philadelphia or Baltimore. We have a soil unsurpassed for the production of all kinds of grain, vegetables, fruits, &c., and an amount of intelligence and practical knowledge of farming brought out by our close proximity to market, and attention to education and reading useful Agricultural works, which would compare favorably with any portion of this country. We have an Agricultural Society in a flourishing condition, which held its first Exhibition last September. Our Club is in its infancy yet, having been established little over a year. We have tried some experiments with success, and have Committees appointed for further trial the present year. P. LUDLAM. *Bridgton, N. J.*

CAPITAL IN FARMING.—As a young beginner, I felt much interested in your article on "Capital in Farming," and think it must be of much service to many others. Your estimate at two thousand dollars is a fair average perhaps, but could be more justly increased than diminished. In this county, stock would cost as much as $400 more, and to which might be added as necessary expenses for the first year, $100 for provisions not produced upon the farm, making an aggregate of $2,550, a sum which should discourage any young beginner from going in debt for his land. Capital rightfully invested will encourage us to be *capital* farmers, but when it is thoughtlessly applied, it will make us *un*-capital ones. J. M. S. *Orange Co., N. Y.*

HEATING HOUSES.—Being about to erect a country residence of bricks—about 1700 feet basement area, 1½ stories high—the question arises how shall I warm it these cold winters when fuel becomes scarce. I consulted my friends, whether stoves or hot air would be best; the yeas and nays were about equal. I had resource to the Albany Cultivator, Genesee Farmer and Canadian Agriculturist,—all I believe are silent on this important subject. Now Mr. Editor, will you or some of the scientific contributors to your unparalleled paper condescend to benefit me, and perhaps many other of your subscribers, by throwing a little light on the subject, taking comfort, economy, durability of furniture, cleanliness and neatness of apartments and health into consideration. I find one great objection to hot air is the difficulty of conducting the rarified atmosphere through horizontal conductors to the remote apartments. Another is, the dryness is a destruction to the wood work and furniture in and about the house. Another objection is that the air is so dry as to be oppressive, causing a disagreeable lassitude and often a headache.

This question, if settled upon scientific principles, nd actual experiment, whether stoves or hot air is preferable for warming a dwelling house, will much oblige your very obedient humble servant. CHARLES BOOTH. *Lynn, C. W.*

DECOMPOSITION OF SOILS--Query. Do green crops when buried in the soil, undergo such a fermentation (*acetous?*) as to decompose certain portions of the soil, and thereby render them available for the food of crops?

In my native country (England,) a poor man once had all the mould of his garden carried off for the purpose of manuring poorer land, and had nothing left in it but the strong clay subsoil. He tried an experiment, which was to thoroughly dig through his garden every week to the depth of about fifteen inches, during several weeks. He afterwards sowed his garden seeds without manure, and never had a finer crop.

Again—near to where I lived was a small tract of country, about the poorest that I ever saw; the subsoil was sparry, pebbles and sand of the same nature. This was used to a considerable extent for macadamizing roads, garden walks, &c. It was reckoned to be no better than poison to be laid on fertile lands, yet a person having carried some to a considerable distance to lay a garden walk on a soil of a very different nature, soft slate mixed with clay, obtained the finest grass where the gravel was laid that he ever had on his farm.

SOUND ADVICE.—A word in the ear of the young farmer, especially on a sandy soil. *Keep as much stock of cattle, sheep, hogs, and poultry, as you can, and convert as much as possible of the crops into animal substance—save all the manure and offal, feed the land with it, and you will soon find that the more stock you keep the more you may keep.* S. J. *Grand Mound, Wash. Ter.*

PROTECTION FROM BIRDS, &C.—While I am writing, I may as well give you a receipt for preventing birds, squirrels or mice, disturbing corn, Osage orange, or in fact any kind of seed after it is planted. I have found it very little trouble, and effectual:—One tea-spoonful of arsenic, mixed with one pint of dry corn meal. Put one table spoonful in a heap on the ground, wherever the squirrels or birds are troublesome. HENRY J. CHASE. *Robin's Nest, Ill.*

TO DESTROY LIVEFOREVER.—In answer to H. Stone's inquiries, for an effectual method of destroying liveforever, J. L. Edgerton advises him to spade the turf about six or eight inches deep, and throw the whole mass, tops, roots, and all, into the hog pen, and S. D. Goodwin reccommends plowing and packing in heaps, with salt and lime. This may destroy the liveforever, but in either case the operation must be very tedious I think a better way is to make a strong brine—old fish, beef, or pork brine will do—and apply it to the liveforever, as this *will* kill it without any *digging*. It has been stated that salt *will not kill liveforever*, but is a mistake, for I have given it a fair trial, and *I* am satisfied that it *will* kill it. TYLEE.

HAY AND CATTLE SCALES.—Why do so few farmers have a scale to weigh demestic animals, that they may know the value of improvement compared with cost? That they may know the quantity of hay and other farm products sold, and not be obliged to guess? Doubtless many will answer, it is because the scales cost so much.

Mr. C. BARTHOLOMEW, of Etna, Tompkins county, has just put one up for me, which appears to be as durable, and to work as accurately as any I have ever seen, and still the price is so much below that of Fairbank's and others, that most farmers may find it for their interest to purchase.

My scale has been in use but one week, and it has saved me half what it cost. E. MARKS. *Camillus.*

Onions as a Field Crop.

Why is it farmers pay so little attention to the cultivation of the onion? Aside from the peculiar flavor for which it is so universally esteemed, the onion contains, in the dry state, about 30 per cent. of protein compounds or "flesh-forming principles." Twelve tons of fully matured onions is an ordinary crop. Under good cultivation, much larger crops are frequently obtained. In 1853 Mr. J. LONGFELLOW of Byfield, Mass. raised on half an acre 386½ baskets of ripe onions, weighing 57 lb. per basket. This is over 22 tons per acre. In the same year MR. EPHRAIM BROWN of Marblehead, Mass., raised 407 bushels on half an acre. This would be over 23 tons per acre. One of our subscribers at Chester, Orange Co., N. Y., raised in 1850 on nine square rods 64 bushels, or 1,138 bushels per acre. This is over 32 tons per acre. AMOS R. COLE of Perington, N. Y., states in the last volume of the COUNTRY GENTLEMAN that he has raised on "a single half acre 368 bushels." This is about 21 tons per acre. We might probably instance larger crops by a little search, but our object is merely to show that onions, considered simply in regard to the nutritious food which may be grown on an acre, are well worthy the attention of farmers. That onions are a healthy, palatable food, when properly cooked, there can be no doubt, and yet how few farmers raise 20 bushels a year? How seldom are they seen on a farmer's table? We fully believe that twice the amount of nutriment can be raised, in this climate, from an acre of onions as from an acre of potatoes. There is therefore no good reason why they are not more generally grown, for should the market be over-stocked, and the price come down, they can be consumed at home with better economy than potatoes. The fact is, onions are better adapted to our dry, hot summers, than potatoes, turnips, &c., and it is surprising they receive so little attention. But, you say, they require much more labor in preparing the ground, sowing and weeding. It is true they require a little more labor, but if the ground is thoroughly prepared, and manure free from seeds is used, and the onions are sown in rows 15 inches apart, and the hoe is run through them as soon as the onion plant can be distinguished from the weeds, the trouble and expence attending the onion crop need be but little more than that of other hoed crops.

At present prices the profits of a good onion crop are enormous. At the last Legislative Agricultural Meeting in Boston, it was stated that "Mr. BUXTON of Danvers realized a *net profit of* $400 from two thirds of an acre of ground in this vegetable, last year. He kept the onions till they brought $2 per bushel." *Six hundred dollars per acre net profit* ought to satisfy everyone that the culture of onions is worthy their attention.

It is difficult to say what soil is best suited to onions. A dark, sandy loam is generally considered as good as any. A good method of preparing it for the seed is to plow the land early in the fall, turning in 12 or 15 loads of well rotted barn yard manure per acre. Unless the manure is applied in the fall, and is well rotted and incorporated with the soil, it is apt to cause much trouble in hoeing. On very light soils, the seed may be sown in the spring without plowing again. If plowed, care should be taken to rake into the furrow any manure that may be turned up, leaving the surface smooth. Sow the seed with a hand drill; six to eight lbs. per acre, in drills 15 to 18 inches apart. Some will think this too much seed, but it is better to have too many than too few plants, as it is easy to thin out. The plants, however, must on no account be left too thick in the rows. Care must be used not to bury the seed too deep. It is desirable to sow as early as the soil is in good working condition. Late sowing is one of the principal causes of scullions.

We have used Peruvian guano, sown broadcast, with good effect on onions; but the best method of applying it is in solution, if it can be accomplished. If applied in the dry state, sow it very early in the spring, and plow it in. We have never used superphosphate of lime on onions, but as it is known to have a remarkably beneficial effect on turnips,—favoring the formation of bulb, with but little development of leaf—it is not improbable that it will be found an excellent fertilizer for onions. It may be sown in the drills with the seed. There is no danger of its retarding germination, unless it is mixed with a large quantity of guano or other organic matter. The high price of onions render it probable that good Peruvian guano or good superphosphate of lime, can be used with considerable profit on this crop. The cultivator will not forget, too, that these manures are free from seeds.

The large Weathersfield red onion is a well known and popular variety, somewhat earlier than the *white*, which is preferred by some. The *silver skin* is also highly esteemed.

If sown by hand, it is well to soak the seed in tepid water 24 hours, and dry it with plaster, before sowing. The seed is sometimes soaked by those who use the drills. In this case it must be allowed to dry in a warm room of itself, or the drill will clog.

"Onions and weeds do not agree well together in the same bed." To grow good onions it is absolutely necessary that they be kept clean. The hoe and the fingers must be used as long as a weed is to be found. It is best to hoe slightly, and not stir the ground any deeper than is necessary to destroy the weeds. Deep and frequent hoeing close to the onions, it is said, induces a large growth of tops at the expense of the bulbs.

Fencing and Fences.

What shall we use for fencing, and what kind of fences shall we make, are questions that may properly claim the attention of the agricultural community at large. White Oak for posts, in many sections of the country, is yearly becoming more and more scarce. The same remark in some measure will apply to chestnut and cedar rails; the latter especially, have much advanced in price, and being cut for the most part out of young and sappy timber, are not found to be as durable as formerly. A post and rail, (either four or

five hole,) when new and in good order, forms a neat and substantial, and while suitable timber can be procured at a reasonable cost for its construction, cannot well be dispensed with, for a road-side fence—for *division fences*, it is now in a majority of cases thought to be too costly. The posts sooner or later decay, and the rails when sharpened, are not well adapted to a common *worm fence*, nor can they be used in that way, except by increasing the number of rails to the panel.

The *rod-fence*, not many years since, was first introduced in this country, where, if I am correctly informed, it *originated*, and from whence it seems to be making its way in other places more remote. In point of durability and economy, this kind of fence will probably compare well with most others now in use. It certainly possesses several advantages over the common *worm fence* with two stakes and a rider to the panel, some of which may be enumerated:—1. It occupies less space and requires a smaller number of rails.—2. It is more durable, and less likely to get into a situation calculated to invite animals to jump over it.—3. It is less in the way in plowing and harrowing, and when turning the team on the headlands.

I will now describe the most approved plan, or mode of making this kind of fence, that has come under my notice. The rails should be cut of a *uniform* length (say 11 feet,) and split as near of a size as may be; and when carted to a convenient place, the holes can then be bored with a half inch auger (one fitted to the socket of a brace will be found most *convenient*)—and by means of a narrow strip of board or an oak lath, this can be done with *accuracy*, first placing the rails on trussels. The holes should be bored *vertically*, and as near to the end as practicable, a secure bearing, one on the other, being all that is necessary, and a four feet *worm* is considered quite sufficient in laying the rails. The rods may be cut four feet, or a little longer, if preferred, but the length named will be found in most instances sufficient, with a good stone block under the joints. Drilling a hole—which in ordinary building stone can readily be done just deep enough to prevent the rod from slipping, will be found to repay the expense and trouble, as it obviates in a great measure the necessity of setting in upright posts at intervals to prevent the fence from being overturned by high winds, on bleak and exposed situations. The stones soon become imbedded in the soil, and are found to be an *additional*, if not of themselves an ample security. Chestnut rails being heavier than cedar, are on that account preferable, and can frequently be procured at much less cost. Hemlock scantling, 3 by 4, can be bored with the same auger, and then sawed into short blocks to drop on the rods and come between the two upper rails. A rail to the panel can be *saved* in this way. Seven and eight rails are frequently used in the common worm-fence—five and six in the kind above described.

As regards the one, the stakes soon rot in the ground, and in the spring when overhauled, though they may seem secure, they are liable to get thrown out with the plow, or if they escape that, cattle and horses rubbing against them do the work no less effectually, and when this is the case, and the *sides* thrown off, even though they may be *thorough bred animals*, when you go to look for them (like politicians of the same stamp,) there is no telling which *side* of the fence you will find them.

The cost of the *rod-fence*, to the panel, will of course vary in different locations—rods can be procured at city prices I presume for about 7 or 8 cents each. Stone blocks of suitable size are here worth about three cents. C. *Salem Co., N. J., 3rd Mo.* 22, 1855.

Culture of Carrots.

I was much interested and I doubt not instructed, with your article last week, headed, "Seed Time and its Labors"—more particularly that portion of it refering to carrots, as I have been attempting the culture of them for two or three years recently. And without claiming anything like proficiency in my own knowledge of their cultivation, and being perfectly aware that in this, as well as all other branches of agriculture, we are in comparative ignorance—allow me to take exceptions to one or two of your suggestions in the article above mentioned.

And first, as to the time of sowing. You say they "should be sown as early in May as the season will allow." My own limited experience teaches me, that in ordinary seasons, the first week in June for our vicinity is preferable, for the reason that if put in before the earth is fully warmed, the seeds are so long in germinating, that the weeds are very apt to get the start of the plants and completely choke them, more especially if the season happens to be at all wet.

I plow in a heavy coat of manure as early in the spring as possible, to the depth of 14 inches, using your directions as to raking the manure in the furrows, and completely covering the manure. I let the land lie in this state until 25th of May, when the manure will have become quite rotten—then cross plow same depth, and harrow thoroughly with a harrow specially prepared for this business, teeth being of wood and 15 *inches long*, and thus pulverizing the soil its whole depth—then take a common 28 tooth square harrow, and thoroughly pulverize the surface—then take my roller and pass once over the land—this is to crush the small lumps of earth, which, in soils at all inclined to clay, are greatly in the way, especially in sowing the seed—then again after rolling, give a light harrowing to loosen the surface of the soil. Don't be afraid of working the soil too much and getting all the small lumps to pieces, as it is, I conceive, of much more importance in root crops than with grain.

When prepared in this manner, I take a cord and draw across the lot to be sown on one side, which gives a straight line for the first row. Then take a marker made so as to make the marks 14 inches apart, which I think is about right for soil made sufficiently rich, and no other should be ever put to roots. Let the out-

side tooth of the marker run by the line, and thus you have a straight row to commence with. Next time across, let one outside tooth of the marker run in the last row, and so on. If your rows get crooked, draw your line across the field again, which will soon straighten matters. When a few rows are thus marked, take your machine, (and every one who raises roots in any quantity will need one,) and follow the marks—allowing the marker to be only a few rows ahead, so the rows can be readily distinguished.

I consider the great secret of success in raising carrots successfully, is in weeding them the first time, in season. A *day or two* delay, at this period, will certainly be the means of losing the entire crop, especially if the season be wet. I have seldom known a man but failed in this respect, on his first trial. I sowed carrots two years before I harvested any. In 1853, I harvested 550 bushels—in 1854, 1200 bushels—the last season at the rate of 800 bushels per acre—by actual measurement.

As you remark, I consider the raising of roots, and feeding them on the farm, one of the most successful means of raising our land in our power. If 15 to 20 tons of good feed can be raised from an acre, which for all feeding qualities, is as good as that amount of hay, (is it not?) why ought not this to satisfy any intelligent farmer of the practicability of the thing? Wm. J. Pettee. *Lakeville, Conn., April* 4, 1855.

Guano for Corn.

Luther Tucker—I have a 7 acre field which was planted with corn last year, but, owing to the drouth and the depredations of worms, I obtained but half a crop. I am desirous to plant the same field again this year. I have *run out* meadow enough to use all my manure upon, which I wish also to plow. Would it do well to put a dressing of guano on the old field? How much per acre? To whom can I send an order with a certainty of getting a good article? and what will be the best method of application? Answers are requested through the Country Gentleman, which is a most welcome weekly visitor. N. Bottum. *Shaftsbury, April* 5, 1855.

Guano will, probably, give you a good crop on such a field. We have had our doubts, however, whether you get *sufficient increase* to pay for the guano. Try it and report the result. Peruvian guano for corn *will pay*, if any artificial manure will. Use from 200 to 500 lbs. per acre. In regard to its application, there is much difference of opinion. The *safest* way is to sow it broadcast early in the spring, and incorporate it as much as possible with the soil before planting. If the summer should be one of drouth, this would certainly be the best plan. Another method, used with success, is to prepare the land, and mark it both ways, and then scatter, where the hills will be, on say a square foot surface, the proper quantity of guano, and mix it well with the soil; a little soil that has no guano with it, should be drawn on to the hill with the hoe, and on this plant the seed, and cover it with soil without guano. Unless these precautions are used, the guano, if applied in the hill, will assuredly injure the seed. If due care is exercised, and the weather is not too dry, this mode of application is the best. If the rows are 3 feet apart—the usual distance we believe in New England, though 3½ to 4 feet apart is more common in this vicinity and in western New-York—one ounce in a hill would be about 300 lbs. per acre. There is no advantage in mixing plaster with guano, unless you wish to apply plaster for its own fertilizing value. As a general thing, plaster has the best effect when applied to corn previous to the first hoeing. Genuine Peruvian Guano can be procured of R. H. Pease in this city, and of R. L. Allen and A. Longett, New-York—or in large quantities of the Agents of the Peruvian government.

A New Method and a New Machine.

Some years ago, a Mr. J. S. Gage, of Michigan, was informed by an intelligent English farmer, that wheat was sometimes dibbled in by hand in England, and that premium crops were almost always thus put in. He stated that dibbling in was greatly superior to drilling, as drilling is superior to sowing broadcast and dragging, or harrowing in, insomuch that wheat dibbled in, would yield from five to ten more bushels per acre than that put in by any other process. Dibbling in, can be performed only when there is a great abundance of cheap labor, for it is performed by a large number of hands put upon the field after it is all prepared for the seed. Each laborer is equipped with a sharp stick or dibble, and a bag of wheat. A hole of the depth of two or three inches is made in the mellow earth, into which are dropped two to four kernels of wheat, and then it is closed up by brushing some mellow earth over with the foot. Finding from others who had seen this process, that wheat thus dibbled in, produces better than when drilled, or even when drilled and afterwards rolled with a heavy roller, he set himself to thinking, in order to determine what could be the cause of this superior yield. He seems to have rested, at length, in the conclusion that it was because the ground is pressed before the seed is put in, and afterwards covered with a light mellow soil.

Dibbling in after the English fashion being a thing wholly unsuitable to the circumstances of the American farmer, Mr. G. set himself to work to invent a dibble that would meet the wants and go-ahead tastes of Young America. His machine which is at once a roller, a drill, and a dibbler, is described by Mr. G. in the Feb. No. of the Mich. Farmer. He takes a good double roller, and raises sharp ridges 3 inches high around it, made of cast iron spiked on. The ridges are placed at the same distance apart that he wishes the rows of wheat to be. As the roller passes over the ground it leaves, of course, creases or gutters 2 to 3 inches deep, as thoroughly pressed as a dibble stick would have done it. "A hopper made on a new plan, and costing only two dollars, is placed behind the roller to hold the seed which is conducted by tubes to the gutters in any desired quantity. This hopper is operated by a band wheel attached to the end of the roller. Some blocks made of 4 by 4 inch scantling hang loosely behind to cover the seed, and this finishes the work in the most satisfactory manner."

Mr. G. states that he has used such a machine for 3 years, but does not say whether or not he has found it produce as large crops, comparatively, as the dibbling process in England is said to do. The public would, doubtless, like some information on this point.

Hedges.

It has been asserted, and doubtless with truth, that the cost of FENCES throughout the country, is *twenty times* as great as the value of all the specie within it. No apology is therefore required for occupying some attention with the subject of hedges; and we hope valuable and reliable knowledge may result from investigations on the subject.

We have received two communications from men of experience, in reply to the inquiry of our correspondent A., a few weeks since. They both reside in the same district of country, and are both strongly in favor of the English Hawthorn. Although differing from them somewhat in opinion, we give the substance of their remarks, in order to throw all the light we are able to do on different sides of the subject.

In England, the business of "hedging and ditching," is a trade of itself, requiring much experience and some skill. Hence the reason that English farmers in this country are more successful in their experiments than others; and usually employing the hawthorn, they give this plant a favorable chance for comparison with other hedge plants. On the other hand, the Osage orange at the west has been commonly planted by those who have little knowledge of the treatment of hedges, and many of their attempts, as a matter of course, have signally failed.

Failures in hedging result from *two* CLASSES of causes, and differences in opinion and misjudging, often arise from confusing them. The first class of causes, consists of all the different kinds of *bad management* merely—defective planting, gaps, *want of cutting back*, neglected tillage, &c. *All these may be remedied.* The second class, results from defects in the plants themselves, as want of natural hedginess, stoutness of growth, want of thorns, liability to the attacks of insects and diseases, &c. *These generally cannot be remedied.*

On rather moist, rich, and not very heavy soils, we have observed the hawthorn to do admirably in Western New-York during the first ten or fifteen years of its growth. We have seen a beautiful hedge of it, twenty years old, that promises to endure a hundred, so far as we can see at present. But on *ordinary soils*, it has more commonly failed before twenty years old. There are two farms in western New-York, one in Ontario county, and the other in Niagara, mostly fenced with hawthorn, that for a few years promised every thing that could be expected, but are now becoming full of gaps, dead plants, and as a consequence, those peculiarly unsightly appearances, holes stopped with rails, dead brush, &c. But the most discouraging fact, is the disaster which occurred many years ago at the east, where the loss of the hawthorn hedges, after they had been generally adopted and relied on, by a sudden attack of insects, was estimated greater in a single township, than if all the dwellings had been destroyed by fire. We do not know but such a disaster may be repeated. All plants belonging to the same natural order as the thorn, apple, &c, are liable to the attacks of the *borer*. The native Newcastle thorn, after being considered unobjectionable and infallible for many years, was destroyed in great numbers by this insect.

The buckthorn possesses eminently two advantages, poison to repel all animals from touching it, and extreme hardiness for transplanting. But the ground for it must be made *very rich*, and the cultivation must be of a high order, or its growth will not be strong enough. With such treatment, we have seen it made into strong barriers. The stretched-wire, recommended for the privet by our correspondent B., would probably render the defence very complete. Its want of thorns is a decided objection, when required for fruit gardens.

The Osage Orange is tender—but after many years observation, we have not found this to injure its qualities for a hedge. Young plants sending up shoots six feet the first season, will be killed back no further than these shoots should be sheared—and when older, slower growing, and protected by being in a thick hedge, we have never had more than a few inches of the shoots killed, even when the thermometer has sunk to 8° or 10° below zero. It is incomparably the most thorny hedge plant we have seen, *every inch* of every shoot furnishing a sharp stiff spire. On soils at all wet, it should be placed very nearly over a tile drain, which will greatly contribute to its hardiness.

We do not mention these facts for the purpose of controverting the opinions of our correspondents, but merely for suggesting inquiry, and to enable our readers to judge for themselves with the assistance of what light we can furnish them. Facts, distinctly stated, and experiments with their duration mentioned, and not merely *opinions*, from those who have made experiments with a full knowledge of the requirements of successful hedging before them, will always assist correct conclusions on this subject.

Seed Onions.

It is a matter of some surprise to find that most, if not all, of the vegetable growers of this vicinity, depend upon buying the sets of this, to them, valuable crop, instead of growing them themselves. Valuable, because it brings in an early return of a very saleable article, green onions; and the ground is clear in ample time for the main crop of turnips. We saw recently a pile of these small onions, probably two bushels, which cost the nice little sum of *thirteen dollars*, which, had they been grown at home, would have been so much added to the produce of the garden, and that not a very extensive one. It was suggested that the method of growing them should be given in the *Country Gentleman*, which might lead to their being grown in this vicinity, at least for home consumption. It is simply as follows:

Sow the seed as early in April as the weather will permit, very thick, in shallow drills, six inches apart. Keep them thoroughly clean of all weeds, and allow them to remain without any thinning. By the middle of July, they will be about the size of peas and beans, when they are taken up, harvested, and stored away for next spring's use.

In the neighborhood of Philadelphia, hundreds of acres of onions are grown for shipment to the southern market; and most of the gardeners there plant these small onions for permanent crops, instead of sowing the seed. It is generally thought that the onions come larger; and another thing, which is important where so much breadth is occupied, is that they are easier cleaned, requiring but little hand labor. EDGAR SANDERS.

The Plow—An Improvement Wanted.

In the report of a Lecture by the Professor of Agriculture in the University of Edinburgh, we find the following remarks, which contain a suggestion well deserving of consideration, especially by those of superior mechanical genius. There are, we know, two implements by which the defect of the plow may be obviated, or its results remedied, in part—grubbers and subsoil plows;—but probably there may be now latent in some brain of superior mechanical powers, a yet more excellent way? To indicate and point attention to a *want*, is, at all events, one of the most likely ways of obtaining a *supply*. For this reason we think the hints subjoined, should be widely scattered, that they may find a fitting soil in which to take root and bring forth fruit. We have condensed and abridged as much as possible.

Although the necessities of man compel him to use the plow in preference to the spade, it is admitted by all, that the work done by the two implements is of a very different character, the plow leaving the soil in a condition far less suited to the purposes of vegetation than the spade. This is more prominent on heavy soils than on light. By the operation of the spade the soil is left loose, the original surface with its weeds and exhausted mould, being completely buried, and a fresh surface exposed. But the plow is a tool of a rougher nature. It is, in reality, a wedge forcibly dragged through the soil at a certain depth, *lifting up* that portion which is *above it*, at the expense of making that which is *below it more compact*, this latter receiving virtually all of the force required for the separation. The consequence is, that more or less, according to the soil, this lower surface is compressed to such a degree, as to leave a dense and compact surface, through which the roots of plants must find it difficult or impossible to penetrate. The furrow slice, too, instead of being completely inverted, is not turned over to more than one-half or three-fourths of the way, the surface weeds are imperfectly buried, and the soil is not changed to the same extent as by the spade.

The *great desideratum* in practical agriculture is, therefore, to obtain an implement that shall have, like the plow, the capability of doing a large amount of work, and like the spade, of doing it in such a manner as to satisfy those conditions which we consider desirable for the purposes of successful cultivation. Many implements and machines have been constructed, and much skill and ingenuity from time to time expended in the endeavor to realize this great desideratum; hitherto, however, the results have not been very satisfactory. In no form of it, does the plow cultivate thoroughly; it requires to be followed by roller, or harrow, or other tools to complete the work, which after all is not so well done as by *one operation* of the *spade*.

What we want is, not *plowing* so much as *cultivation*, or that process of disintegrating and fitting the soil, which the *farmer* by necessity performs by three, four or five separate operations, and then not so effectually as the *gardener* accomplishes in *one*.

Prof. Liebig's New Work.

THE RELATIONS OF CHEMISTRY TO AGRICULTURE, and the Agricultural experiments of J. B. Lawes. By JUSTUS V. LIEBIG—published by Luther Tucker, Albany, 1855—price 25 cts.

After reading LIEBIG's pamphlet twice, I came to the inevitable conclusion that if the charges against his mineral theory, (endorsed as they are by Mr. Lawes, Pusey, Wolff and others,) are not true, the evidence contained in this *brochure*, is sufficient at least to show that the great German chemist and distinguished author is obnoxious to the implications of his opponents by the pertinacity in which he still clings to the main points in his first theory; and the ingenuity and special pleading he employs to lessen the value of any considerable artificial application of the salts of ammonia to growing crops. It would seem that the learned Professor had been somewhat mystified by the great success of the first practical experiment of his mineral application, on a soil which of all others was perhaps the most thoroughly exhausted of all the mineral and organic constituents of vegetation; for he tells us that the whole ten acres would not give the vegetable *de quoi* "to feed one sheep." But what his success might have been with the minerals alone, he leaves us without the means of knowing, as he did not risk it singly on a single plot of ground, as each one was also treated with either stable-dung, saw-dust, forest scrapings, or other refuse, all containing nitrogen to form ammonia in the soil. And may we not also infer that it was the ammonia formed in the decomposition of matter, and from the refuse of crops, which he says were "fed or left on the ground," that kept up the four years increasing fertility of the soil. But if the Baron does not yield to Mr. Lawes' theory of the necessity of extra ammonia salts, his unlearned gardener, who succeeds him as proprietor of the ten acres, carries out Mr. Lawes' theory to the letter; for the Baron himself tells us that this man kept "two cows and several head of cattle" on these ten acres, and that "all the *animal excrements* produced on the premises, and especially the *urine*, were collected with the greatest care, and of course have been incorporated with the soil."

Mr. Lawes' experiments were probably commenced on a soil poor in organic matter, but containing sufficient undissolved mineral elements for a crop, needing only ammonia salts to make them soluble and available to plants. And may we not here premise, without offense to either of these distinguished antagonists, that the diverse nature of the soils on which they each experimented, may account in some measure for the enthusiastic tenacity of each in favor of his own theory; for after all, the theories of both experiments agree as to the indispensability of both mineral and organic food for crops; they disagree only in the details of quantity. But if Liebig has the most learning, he has also decidedly the most enthusiasm, for he tells us that his experiment field will "retain its fertility, if there be as much soil-ingredients (mineral of course) returned to it yearly, as are removed in the crops." He farther says that "a deficiency or excess of phosphate of lime,

of alkalies for root crops, of alkaline earths for clover, of alkali silicates for the cereals, was plainly revealed in the growth of these plants. The trial plots appeared (to his imagination) like the *writing on the leaves of a book*; the significance was evident even to the uninitiated." He then adverts to the mineral plant-food left by the refuse on the field; but his less poetical successor, in saving the excrement and the urine of his cattle, seemed to have had more faith in organic manure than in the mineral prescriptions of his master.

Although Prof. Liebig readily admits the necessity of ammonia salts, as a solvent for mineral matters in the soil, yet he thinks that "chemistry will doubtless discover the means of making more easily soluble the silicates and phosphates which are indispensable to the wheat plant." Methinks until such a discovery is made Mr. Lawes will stand absolved for promulgating the theory, that a manure for the wheat plant is "valuable in proportion to the nitrogen it contains." Professor Liebig demurs to Mr. Lawes' experimental proofs that phosphate of lime is the best manure for turnips in the face of the analytical fact that turnips contain but little phosphate of lime; hence he attributes the value of the phosphate of lime to turnips to be due to the sulphuric acid, and not to the bone earth, combined with it. If this is so, why is not gypsum, a much cheaper article, the best manure for turnips? and Liebig himself tells us that gypsum soon gives up and saturates the soil with its sulphuric acid, and becomes a mild carbonate on the surface; vide his garden experiments.

But this little pamphlet of 86 pages, does more honor to Prof. Liebig than the Baronial handle to his name. It should not be said of him that "too much learning had made him mad"—only a little over enthusiastic; and I would ask what of true greatness was ever attained without enthusiasm? As grease is necessary to machinery to overcome friction, so is enthusiasm the intellectual grease of the brain without which it would cease to be in working order. Let every farmer who wants to know and believe that his calling is more intellectual than a mere system of physical drudgery and hereditary recipes, buy this book, Liebig's last publication on the "Relations of Chemistry to Agriculture."

I apprehend that much credit is due to Mr. S. W. JOHNSON, for the rendering of the German of the original into English. Had it been done by a mere *literateur*, who had no knowledge of agriculture or its chemistry, much that is now plain and simple to the reader, might have been unsatisfactory, if not technical and obscure. N'IMPORTE. *Waterloo.*

TRAINING A BALKY HORSE.—The *Michigan Farmer* says, a horse became balky in Detroit a short time since, and neither whipping nor coaxing could make him stir. A rope was fastened round his neck, and he was dragged a short distance by another team, but this did not effect a cure. The rope was then taken from his neck, passed between his legs and fastened firmly to his tail. In this manner he was drawn a short distance, and when the rope was taken off, the hitherto unruly animal was perfectly obedient to the will of his master. We have seen this method tried with similar results.

First Year's Experience in Farming—No. IV.

When I first turned my attention to farming, I united with our County Agricultural Society. It was natural to expect a good degree of perfection in an institution of such long standing, and to look for great benefit from its practical workings. I anticipated much assistance from so large and respectable an association of farmers, and I have not been entirely disappointed. It is not to be doubted that such societies have effected a vast amount of good. While I cheerfully concede this, it is but justice to add, that as a means of instructing and improving farmers, and elevating them as a class, they essentially fail of their object.

Those who most need instruction, do not join the societies, and are not reached. Many among those most capable of instructing and improving their less informed brethren, act as if they considered their superior acquirements a special property, and no more to be communicated to others than any of their real or personal property. While many, whose counsel and influence would tend to elevate, and enoble their fellow-farmers, stand entirely aloof from the societies.

Besides, the energies of the agricultural societies seem to be mostly expended in getting up the Annual Fairs. Now, the fair should be but an *incident* of an agricultural society—not its end and result! The great object should be, to gather and disseminate practical knowledge among all classes of farmers. To make, publish and circulate, reliable experiments—to investigate the laws of science applicable to agriculture—to create and diffuse among the farming community, and especially the sons of farmers, a deep interest in, and a strong attachment for, the most peaceful, dignified, and enobling pursuit of man.

If these objects were kept steadily in view, more would be really benefited, interested, and enlisted in the societies.

A good fair, which presents an exhibition of extraordinary products of the soil, domestic animals of rare excellence, superior implements, &c., leaves a permanently valuable impression. It elicits a laudable rivalry, and raises the standard of excellence. But a fair that does not furnish articles and specimens of decided superiority, has exactly the opposite effect. Visitors turn away from an inferior exhibition, saying, "Is this all! we can show better at home," and they go home with an impression that the agricultural society is a humbug. And such an idea once in a farmer's head, it is apt to stay there!

Not desiring to say anything to diminish the already too little interest of farmers in agricultural fairs, if each society would thoroughly circulate the statements of those who have raised good crops, showing minutely *how* they have prepared their lands and cultivated the crops; if it would pay premiums for the best experiments in feeding cattle, cultivating the different crops, planting orchards, &c, and print and circulate among all classes of farmers, the details of such experiments, I feel sure it would soon awaken a more general interest, and all would feel that they were receiving a more real advantage from the societies.

There is a very general complaint upon the subject of the judges appointed at fairs, the mode of their appointment, and the hasty, imperfect, and often erroneous judgments, they pass upon the articles presented for competition. Judges are *often* appointed, both in the State and County Societies, at the suggestion of interested parties who happen to be present at the day of the fair, who are either incompetent or indifferent to their duties, and the result is, general dissatisfaction.

I have noticed some allusion to this subject and to other defects in agricultural societies, in the Report of the President of the Niagara County Ag. Society, published in the volume of Transactions of the State Society for 1853, to which I beg to refer such of your readers as are interested in this matter.

My *personal experience* in exhibiting, has perhaps increased my repugnance to the hap hazard way of appointing judges. I ventured to take one animal to a late county fair, and although thought worthy a premium at a previous state fair, and a first premium at the preceding county fair in the same county, my poor Durham Bull failed to attract even a passing glance from the chairman of the judges, (appointed to fill a vacancy) who informed me after all was over, that he was not aware such an animal was on the ground! Civis. *Utica, April*, 1855.

Two Horse Cultivator.

Messrs. Editors—I would like to recommend to my brother farmers, an implement called by some of us here, a *Two Horse Cultivator*, made after the old crotch drag fashion. You want nine cultivator teeth; or you may have less or more, as the strength of your team may be; you can have cast iron, or steel teeth, (the latter far preferable)—place one in front—the others opposite of each other; have the teeth about eighteen inches apart in the timbers, and a drag tooth in each hind end of the side pieces. This is to prevent a track being left by the two hind cultivator teeth. This must be rather longer than the old fashion crotch drag and flare at the ends, or else it will work rather bad. The side pieces should be three inches by five. The teeth must point exactly ahead. Have a hook on top of the forward end, to hitch your team to, and not exactly at the end as we usually do on harrows. This implement will do the work of three common harrows, on land that has been plowed in the fall. I use the harrow once or twice in a place, then go on with the cultivator, and if your ground is dry enough to work good, you get well paid for your labor, for getting in wheat, barley, oats, or any kind of grain. This implement is far before the common harrow. We know how the corn cultivator works, in our corn fields. In like manner does the two horse cultivator work for sowed grain. Z. S. E.

Leaves absorb and give out moisture, and inhale air; they are, consequently, the most important organs of a plant, and if they are destroyed or injured, the whole plant suffers.

The Bee Moth.

Messrs. Editors.—Mr. B. N. Warner, in a late no. of your paper says: "Will some experienced person inform me through the Cultivator, what will destroy the Bee-moth or worms, and what kind of boxes are best suited to prevent their depredations." This subject being in my line, it may be a duty to offer a few suggestions, even if I fail to answer his questions satisfactorily.

The following is perhaps as effectual as anything. Mix with water, molasses and vinegar in proportions to be palatable, and place it in shallow dishes among the hives at night—while sipping this, the moth is apt to fall in and drown. Also, put up a cage or box for the Wren; he is a valuable assistant, and will pick up hundreds of moths and larva. Crush the heads of all the worms found under the hive, particularly in spring. After the hive becomes full of bees, and the worms are no longer found on the floor, split elders lengthwise, scrape out the pith, and lay them pith side down on the floor—a great many will creep inside to spin their cocoons;—they should be destroyed once or twice a week. Having found most of these remedies in some agricultural papers, I have tried them to some extent; they are good as far as they go, because every moth or its larva destroyed is one the less; yet there are always "enough more left of the same sort," to eat up the contents of any hive left exposed.

As to "what kind of boxes" (hives I suppose) "are best suited to prevent their depredations," I would say the hive "*best* suited" to the wants of the bee. I use the common hive, and for the last twenty years, the loss of stocks by the moth has been less than one per cent.

I presume Mr. Warner is like thousands of others, who suppose the moth the principle cause of failure in Bee-culture, and flatters himself that to get rid of *them*, success would be next to certain; hence the inquiry for some particular hive, and means to destroy them. I would advise him and all others, who expect success with bees, to depend on nothing of the kind—it will prove a "broken staff." A moth-proof-hive, is not yet invented—shall I say, never will be. To save from the worms the contents of a hive in warm weather, accessible to the bees without *them* to help defend it, is beyond the skill of the apiarian. I can assure him that nine stocks in ten destroyed by the moth, would be as effectually lost without them. Consequently, we must go beyond these effects for the cause, the worms are only secondary or carrying out some other fatality, and are found in the last link of cause and effect instead of first. Prevention is better than cure. Let us study the causes of a failure of the bees,—the natural guardians. Keep the stocks strong in numbers, and *they* will *defy* the attacks of the moth. Here then is the whole secret of success—it is first and last, and all important. M. Quinby, *Author of Mysteries of Bee-keeping. Palatine Church, N. Y.*

Fences.—It is estimated that the *fences* in this country cost *twenty times* the amount of all the specie in it.

Potatoes for Ewes and Lambs.

WM. E. WHEELER states in the last number, that his sheep, wintered on oats, corn (and hay?) until they began to lamb, then on potatoes, *do not give milk*, and the *lambs die*. His sheep were better fed than most sheep, and it is to be presumed were in good condition. Under such circumstances it is unusual for the lambs to die. Nature had no such intention, and has been thwarted by violence. There is a cause, and it should be discovered.

One of my neighbors, who keeps large and vigorous sheep, wintered in the same manner on hay with corn and oats, and at yeaning time changed in the same way to potatoes, obtained from the experiment precisely Mr. Wheeler's result. The loss of his lambs was so unusual and great, that *he* is convinced that potatoes were the fatal cause, and would now as soon feed his yeaning ewes with ergot. If this opinion is correct, it can be proved only by the cumulative evidence of like results from *many* experiments; but although the above two do not fully prove any thing, or justify belief, they *should* excite inquiry and direct a careful observation.

In reply to the question of best food for ewes and lambs, I would suggest that no change of food should be made *suddenly*. When the food is changed, there is a necessary change in the animal machinery of digestion and assimilation. This change requires a certain time during which the wants of the animal are not fully supplied.

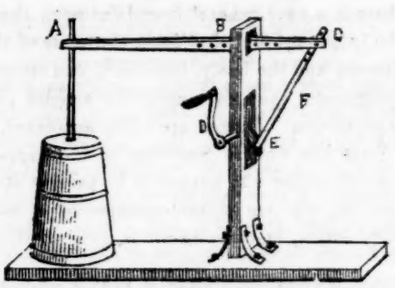
2d. The change when made, should not be from *more to less nutritious food*, as from corn and oats to potatoes; and

3d If a change must be made, it should not be at the critical period of parturition.

During gestation the food should be not changed, but slightly and carefully increased until the last few weeks, when it should be alike until the lamb is two or three days old; then increase the food without much fear.

The best food for sheep is grass, and there is no equivalent. In winter I have had best success with hay made from small herds grass and clover on dry land, and yielding a ton or little more to the acre. Give as much as they will eat. Corn and oats mixed, once a day, and some roots or green food (usually ruta baga or turnip) once a day. Some soils are not adapted to sheep, and on such the flock requires greater care and more feeding with grain. When the lambs come in the winter, it is desirable to keep up the condition of the ewe, but if she is a good nurse this is hardly to be expected.

It is generally known that I keep only the large New Oxfordshire sheep—that they are great breeders, and good nurses. When these sheep, as is common, have two or three lambs in March, I feed them as well as I know how. Not large quantities of grain, but feed carefully, and yet ungrudgingly—*often* and of *various kinds;* but with all care, the ewes before grass grows, will be lighter than in winter. On grass they rapidly recover, and I never lose a ewe and very rarely a lamb. JOHN T. ANDREW. *West Cornwall, Ct., April* 9, 1855.



Churning Apparatus.

MR. TUCKER—Please insert in your columns a sketch of a churning apparatus of my invention. It will run as easy, or churn as fast, as any I have ever seen. In the above cut you will perceive that it is of very simple construction, and a man can make one in a day. A, is the mortice that the dasher goes through—B, is the place where the evener is fastened, by means of a bolt; and by moving the evener towards the letter B, the dasher will not move so high—C, is the place where the evener and pitman are joined—F is the pitman—D, is a crank about a foot long—E, is a short crank about 4 inches long, working in a mortice in the center of the post, 1 foot long and 4 inches wide. EDWARD M. FULLER. *Salisbury, Herkimer Co., N. Y.*

Working the dasher churn by means of a crank, has been previously effected by placing the crank on two supports proceeding directly upwards from the churn, and sometimes the motion has been multiplied by cog-wheels; but the latter causes too much friction. In both instances, a fly wheel has been found important; and it would no doubt be a great advantage in the above described contrivance, lessening the labor by rendering the motion uniform. This contrivance appears to possess an important advantage over other crank-arrangements, by admitting any desired variation in the length of the stroke. EDS.

Founder in Horses.

MR. TUCKER—I send you a recipe for founder in horses, which I have never seen in print. I have used and recommended it for fifteen years, and so far as my experience goes, it *is a sure and speedy remedy*:—Take a table-spoonful of pulverized alum, pull the horse's tongue out of his mouth as far as possible, and throw the alum down his throat: let go of his tongue, and hold up his head until he swallow. In six hours time, (no matter how bad the founder,) he will be fit for moderate service. I have seen this remedy tested so often with perfect success, that I would not make five dollars difference in a horse foundered (if done recently) and one that was not. E. L. PERHAM. *Albany, Oregon Ter.*

Agriculture is the appropriate employment of declining years; for it may be pursued to the very end of life. Not so the occupations of professional men, for they will find, when the strength of their days is gone by, that younger and stouter rivals will hasten their descent, as they are travelling the downward slope of hostile rivalry.—*Anon.*

Theory and Practice.

Agricultural Science and Scientific Agriculture.

BY S. W. JOHNSON.

Every farmer has a theory. Every sane man performs all his business, in accordance with some rules which satisfy his mind. The chain of reasons which he is able to assign in justification of his actions, is his theory. A man may strike his horse, or break his plow, without following, and indeed in opposition to theory; but all that he does deliberately, and of his free will, he does because he is convinced of its practicability and lawfulness—because he has a good reason for it; or he is no honest man.

The farmer may affect to despise theory, and claim that he is a purely practical man; but he is mistaken. For to suppose that a man can carry out the manifold affairs of a farm, through a whole year and through many years, without some mental basis for his operations, is sheer nonsense. This mental basis is theory, and to take pride "in freedom from theory," is to boast of inability to think.

A farmer follows the same routine of practice that his father did, or he does as some successful neighbor does, or he adopts the plan of A. who writes for the papers; or, finally, he rejects them all, and takes a way of his own. Why does he follow one or the other course? Because, after thinking the matter over, he concludes it is the best. He philosophizes upon it; he considers the arguments for it and against it; according to his ability, he *reasons* on the subject. Neighbor B. told him a bit of experience the other day, which favors his view; Squire C., an old farmer, preached the same doctrine in his address before the County Ag. Society, and so he discusses the point until he arrives at a settled conclusion. The mental process may be a long and complicated one, as it will be in a cultivated mind, or it may be so insignificant and summary that the man may not know that he has reasoned. A man may have a microscopic understanding; he may mistake his own prejudices or fancies for arguments; he may worship precedent; he may have such dulness of observation and apprehension, that he has hardly a dozen well understood facts in his stock of knowledge, or his mind may be so undisciplined that he cannot pursue a logical train, yet he must arrive at a mental conclusion before he acts; his reason must consent to these conclusions. The plan carried out is his practice, and the chain of reasons which convinced his judgment, is his theory.

If he himself only adopts a theory proposed by another, because he knows nothing opposed to it; if he be unable to state the grounds which form the basis of his operations—if he can only say "my father did so," or have no other reason than that so common among old women and children, "because"—however faint may be the spark of intellect that lightens his being, yet he has his mental processes, and their result—the conclusion that satisfies his reason, his theory—must inevitably come from them, and he is mentally if not morally responsible for it.

Many of the opinions that are current in the world are very wrong. Many names are misapplied. In common life, incorrect and incomplete ideas of the nature of theory and practice are almost universal, and hence the term "a theoretical farmer," and "a practical farmer," are often abused, and the good meaning which properly attaches to them is torn from its natural connection, and replaced by such as belong elsewhere.

What is a "theoretical farmer," in the common acceptation? He who has wild theories, extravagant notions—he who "goes in" for any thing new,—who laughs at what our fathers did—talks immensely of progress, steam-plowing, &c.—he is what was formerly called a "book farmer," until that name became too respectable for such a use.

"Yes, that's your theorist," says a thick stout-built, short-necked individual—"that's your man of theory. I am a practical man. I was always suspicious of these go a-head folks; they generally smash their heads against a wall. I take it coolly. Reckon experienced old men like my grandfather and my father, and Gen. E., who has farmed it ever since the last war, know something about it. I am grey-headed as you see, and I have brought up my large family comfortably, and have laid by a good sum against old age, and that satisfies me. I love the good old way."

Here we have two characters, both nice men; the first not without judgment, but excessively imaginative; his fancy runs away with his reason. He holds theory, doctrine, to be *very* important, and lets his cattle go without their fodder, while he devours the contents of the Agricultural papers. He hopes sanguinely that the day will soon come, when he may have his soils all analyzed, and obtain prescriptions for their treatment under all circumstances—when he shall be able to buy guano and superphosphate, and poudrette—when his whole farm shall be thorough-drained, to the depth of four, and subsoiled to the depth of two feet—when his pastures shall be populated by Morgans, and Short-horns, and South-downs—when his ham and eggs shall be furnished by full blooded Berkshires and Shanghais. He has his soils analysed; and they are found to contain no phosphoric-acid, notwithstanding they produce corn and oats; he applies $50 worth of superphosphate and an equal quantity of guano, and the increase of his crops is worth but $75. His imported stock are half-bred, and die at that; his Shanghais don't lay, and he becomes a victim to 'misfortune.'

Our other friend, is a very *respectable* man; he is thought to be very sound, although he never had a dozen thoughts of his own in all his life. Devoid of imagination, his mind never goes out on foraging excursions, but only reasons on what falls within its way. He is a man of strong prejudices, and one of the corner stones of conservatism. He has immense muscles, which love to work, and a dull nerve which centers more in his stomach than in his brain. He is the type of so-called practical men; and as he occurs in every school district, he does not need further description.

The first is like the dragon-fly. He has a vast preponderance of wings. He is constantly on some adventurous flight. He goes whizzing hither and yon, through the atmosphere of speculation. He is wide awake. He flies with the wind, and wonders at his speed. He is intoxicated with the slightest stimulus, and without excitement is miserable. He soars awhile gloriously, but his wings are gauze, and in some thunderstorm of reality he falls to the earth, his pinions wet and dislocated. He loves theory, but theorizes wrongly. He chiefly fails because he cannot count the cost of a project—because he lacks business capacity!

The other character is, at best, a flying squirrel. He carries too much ballast for his sail. He makes a desperate spring with all legs spread, and calls it a flight. His sphere of life and ambition is very circumscribed. He dwells in the ancestral homestead and has spotted the beeches which yield the best mast, and knows where ground-nuts are most abundant. He despises theory without knowing that he theorizes. He prides himself on his practice, and never dreams that it might be better.

These characters stand at the opposite extremities of the chain, along which all farmers are strung. The one does not represent theory fairly, nor the other practice. They both have practice and theory, for without the former, they could not be farmers, and without the latter they could not be men. But the two elements

are mixed in wrong proportions. The golden mean is where we must look for an agricultural exemplar. The best theorist is the most practical man, and the best practical man is he who most correctly and largely theorizes—*other things being equal.*

There is extravagant, unfounded, or one-sided theory; there is practice that is irrational and disadvantageous; there is also theory founded on natural laws, which is just, and deserves all respect; and practice which accords with sound theory, and which is necessarily to the highest degree advantageous.

It behoves the farmer to look after his theories, his doctrines; in so far as they are carefully formed, based on truth, comprehensive, and, to sum up all in one word, sound, in so far will his practice be correct and profitable.

If the doctrines, theories, or ideas, held by a community, relating to farming matters, be made correct, the practice will immediately conform thereto, for it is the mind that leads the body.

If, as I have attempted to show, there is no practice without theory—that even the most old-fogy farmer, has some doctrines, and some thoughts, and that the more extensively and accurately the farmer thinks—or in other words the more correct his doctrines and perfect his theory,—the more successful he must be in cultivating the soil. Then surely theoretical agriculture is by no means to be despised.

The word theory is used with considerable latitude, and may be properly applied to two things, which, in most respects, are perfect antipodes. A good sound theory, is immutable truth; it is a systematic exposition of the principles of the process or phenomena to which it refers; it is the result of experience, and has been attained by long and patient study and investigation. It is adopted by large-minded men as the basis of their practice. There can be but one good theory of any operation or art. Of bad theories, there may be a legion. They may be bad, because imperfect, though correct in many points. They may be utter nonsense, sheer invention,—may be proposed by men incapable of continued and connected thought, and bear no evidence of being legitimately descended from practice, or confirmed by experiment or experience.

What agriculture wants is sound theory. Its system of doctrine should contain all those principles which are satisfactorily *proved to be true*, and should reject all such as are demonstrated to be false.

Where is the source of good theory? Theory is the result of reflection, and of the study of facts and phenomena. To make a theory, are wanted, 1st, facts or knowledge; and 2d, mind, which revolves these facts and discovers their relations and causes. The more numerous the facts, and the more powerful and numerous the minds that reason on them, the more rapidly and perfectly will the theory be developed.

Facts must be *genuine* It is not sufficient that they seem to be facts. Every one knows that thousands of statements are received as facts by one class of people, and rejected as delusions by another. It is not difficult at this day to find men who are perfectly convinced that the earth does not turn round once in 24 hours, or in any time longer or shorter; and the fact that the water in Dea. Jones' mill pond has not spilled out long ago, is to them an argument of the strongest kind. He who will be able to judge of the authenticity of statements,—to decide whether they be facts or not,—must seek to know as many facts as possible. Facts are related to each other, or agree together in certain points—these relations and agreements, are means of deciding in how far opinions are correct, or presumed facts genuine. A subject of which we are entirely ignorant, is like a dark chamber. Every fact learned with regard to it, is a light set burning therein. The more facts the more light. A bit of looking-glass might at first be mistaken for a light, but by and bye, as the room becomes better illuminated by the genuine flames, there is light enough to see that it is a looking-glass, and only reflects, does not emit radiance.

The mind that discriminates between facts and false statements, and spins the former into threads of principles, and weaves these into the web of theory, must be *cultivated*, must be trained to its work.

There is one word which includes the whole business of making sound theory, the finding out new facts, examining the pretensions of old ones, arranging them, and developing theory in the greatest possible perfection. This word is one, here extravagantly extolled, there intensely despised: it is the word SCIENCE. There is a mind trained by years of study and thought to fitness for being the instrument for developing theory, and making it useful to mankind. This mind is that of the Scientific Man.

What is shallow or false, does not belong to science. The mind that is narrow, illogical, visionary or prejudiced, is not that of the scientific man.

Genuine Facts are of slow accumulation, and sound Theory is of still slower growth. Men have breathed through a space of almost 60 centuries, and only within the last hundred years, has it been possible to lay the foundation of a theory of respiration that promises to be endurable. The same is true of agriculture. We have just begun. Human progress has just reached the point at which it is possible to begin this work. It is but yesterday that the means and methods were discovered, by which we may hope to erect the pyramids of agricultural science. They will cover immense ground. The masons who know how to build in their walls, are few, and they often blunder. But the work goes on, and every man may in some way hasten its consummation. Encouragement must not be withdrawn, because flaws appear, or bad materials are sometimes used. To err is human. Encouragement will help, mend and rectify mistakes.

A few words on Practice. Practice is, like theory, good or bad. Good practice may be in part accidental, and independent of good theory; but good theory, if it become active, must work itself out in good practice. Bad practice is the result of erroneous, or imperfect (want of) theory. Bad theory can hardly fail to produce disadvantageous practice.

Practice and theory ought to go together. They ought to be inseparably associated in the mind of the farmer. He should boast of his strong muscles for practice, and of his well stored and cultivated mind for theory. He should be on the alert for new items of good theory, wherewith to improve his practice, and for new practical methods whereby to test and correct his theories. He should accept no theory as genuine and established, unless practice gives it the right hand of fellowship, nor be satisfied with any practice without finding a sanction for it in theory.

Rational Agriculture is the result of such a union. Theory is the produce of mind. Education, adapted for farmers, is the means of fertilizing the soil in which this goodly growth shall flourish.

Facts are the materials to theory. They come from practice. Either they may be found by observation in ordinary practice, or more abundantly by investigation in experimental practice.

Experimental investigation is the great means of improving agriculture. By its aid, Theory and Practice will be alike harmoniously developed. No successful course of investigations can be planned, without some theoretical guide, nor carried out without well determined facts.

Let the farmer ask himself—Do I know what is the true theory of my profession? If not, how am I sure that I follow the best practice?

It may be urged—does not the best practice often conflict with theory? It may *apparently* disagree with true theory—or *actually* be opposed to false or imperfect theory. In the first case, practice is at fault; it is not correctly applied, or some unnoticed circumstances stand in the way of its success. In the second

case, the imperfect theory is indeed to be rejected, but only until it can be replaced by one more perfect; but in neither case must we lose our confidence either in theory or practice.

In particulars, practice is in advance of theory; it accomplishes much that theory cannot satisfactorily explain; but, in general, theory is ahead of practice; it teaches what practice neglects to perform.

It is a common idea that many things are good in theory, which are impossible in practice. This notion is perhaps derived from the fact that many machines which work admirably in the model, fail when developed on the large scale. It is a fact that a purely *scientific* theory may be *industrially* inapplicable, and for the obvious reason that there is one element which in science is of no account, but which in industry is of the highest moment, viz, *cost*. A scientific truth has no more scientific value, because it costs thousands of dollars and centuries of toil, nor is it of less importance because some lucky accident revealed it. Its scientific value consists in the number and importance of its scientific applications. These applications are purely intellectual, and involve no cost, for mind knows none of the physical laws of gravitation, friction, nutrition, waste, &c., &c. But the industrial value of a truth, depends very much on what it costs, for an industrial or practical application is of no value when the expense of making it equals the return it yields.

To prevent confusion, and enable our language to convey the idea of cost, included or excluded, I propose to the Agricultural press, the constant use of the term AGRICULTURAL SCIENCE, to signify the scientific theory—the abstract doctrines on which agriculture is based, independent of profit or economy; and SCIENTIFIC AGRICULTURE, to denote the practical theory, the applied doctrines of agriculture, founded on natural laws, taken in connection with economical considerations. The former can be cultivated in the study and laboratory; the latter must be learned in the field, and sustain the ordeal of practice. The former is the intangible offspring of mind; the latter is the mental brood made incarnate. The one is satisfaction to the philosophical intellect; the other is profit to the practical purse.

Agriculture will flourish from that day, when practical men shall be philosophical enough to appreciate the philosopher's thoughts; and philosophers practical enough to calculate the farmer's profits. *Munich, March*, 1855.

Raising Chickens, Gapes, &c.

It is now a good time to make arrangements for raising chickens. The first step to be taken is, to exchange cocks with one of your neighbors. Then be careful that your hens do not commence setting too early.

Chickens should not come out until the earth is sufficiently warmed to produce slugs, bugs, and worms, to furnish them a moderate supply. The first food given to them, should be boiled egg chopped fine; then follow up with milk curd, it being similar to white of egg, boiled. After a few days, wheat screenings, cracked corn *dry*, or buckwheat, may be added to their diet, alternating with curd. Keep them in a warm, dry place, with a shallow dish of pure water near. Feed them often, and as they get strength mix whole corn with their other food, increasing the proportion as they take to it, and when they can fill their crops with corn you may let the hen have the liberty of the pastures, keeping up the supply of grain at regular intervals.

The above rules, closely adhered to, will *prevent* gapes, nine times out of ten, at all seasons. And the reverse will induce gapes, just as surely.

It has often been asked whether gapes could be cured, and I would answer, yes! There are different methods of curing chickens of the gapes. All agree that worms in the wind-pipe cause irritation, and the chicken gapes and flirts its head to get rid of them; the more it flirts and gapes the weaker it grows, and the more the worms increase and thrive, until at last, too weak to take its food, it dies.

Some remove the worms by inserting a feather, and twisting it around a few times, draw them forth. Others use tobacco smoke, almost suffocating the chicken, and, they say, killing the worms. But the best and most efficient cure is one practiced by an elderly lady of great experience in chicken raising. She usually follows the rules first laid down in this article, but occasionally a few of the weaker ones are attacked with this difficulty. They are caught, and if too weak to feed from the dish, are crammed with whole corn, one grain at a time, and out of twelve or fourteen cases in a season, not one is lost. I was induced to try the plan, and occasions being rather more frequent than agreeable, I selected the most desperate, the subject having made numerous ineffectual attempts at picking up its food. There was no difficulty in getting the corn in his mouth, as it was constantly open. It was a slow business, but resulted so favorably that it was repeated three times in two days and saved his life.

My unexpected success induced a thorough examination of the subject, and among the "why's and wherefore's," came up the question of origin. What produced the worm? Was it that peculiar louse of which we hear and read, produced *with* the chicken, and having its home near the nose, propagating its kind by depositing its eggs within the nostril of the chick? Was it the young of the common hen louse? Was it the egg of some insect picked up by the chick at a certain season of the year, and finding its way to the wind-pipe, hatched there?

Did not that mystery which surrounds the origin of the fluke in the liver of the sheep, and worms in the intestines of children, surround this also?

Now I do not believe that "something" is produced from "nothing," any more than that "chess" is from "wheat," or apple trees from quince seed. But what has research proved as to the origin of intestinal worms, and those that find a home in the liver of the sheep, or wind-pipe of the chicken?

We find by experiment, that a good and sufficient supply of nourishing food enables the chicken to keep off, or where no constitutional difficulty arises, to rally and overcome the disease. But when the system becomes enfeebled from any cause whatever, then this *one* difficulty, or disease of gapes sets in. No pepper corns need be thrust down the throat—no turpentine mixed with their food. No corrosive sublimate dropped on their heads, nor oil of tansey put in their food, nor feathers plunged down into their lungs, but one of nature's own remedies furnishes a cure. Food, food—good wholesome food, and a plenty of it. C.

FRUIT IN OREGON.—A subscriber on the Pacific, informs us that it is estimated that the fruit crop of Oregon last year sold for $200.000. He says that one grower whose oldest trees were brought across the Plains in a wagon, imbedded in soil, about ten years since, and then no larger than pipe stems, sold his crop in San Francisco, for the comfortable sum of $20.000.

Agricultural Statistics of Scotland.

In the COUNTRY GENTLEMAN of April 19th, we gave a statement of the average of the wheat crop of Scotland for the last year, ranging from 28 to 36 bushels per acre in the best districts, and from 21½ to 28 in the worst districts. This information, we doubt not, will be of some interest to a considerable number of your readers, and this interest would be increased if the averages of the wheat crops in different counties or districts in this and other wheat-growing states could be ascertained and compared with the above. We hope some approximation will be made to such an average and comparison, by friends furnishing estimates for their several vicinities, as invited to do, in the No. referred to.

If the statistics of the *wheat* crop of Scotland are likely to interest numbers of the readers of this journal, it has occurred to us that it might be equally interesting to them to learn the averages of some of the other crops of that well-cultivated country. We have accordingly collected and condensed from the "Returns" made to Parliament, information as to the principal crops, and herewith submit it. It would add to the interest of these statistical facts, if the average crops of this country could be ascertained or approximately estimated, that the averages might be compared.

Barley.—The average produce of barley in one county is 46 bushels per acre, and in the best district of that county as high as 54 bushels. The lowest average produce of any one county is 29¾ bushels.

Oats.—In the acreable produce of oats, the same county which stood highest in barley, (Haddington,) stands highest in this also, having an average of 48 bushels and 2 pecks. In two districts of this county the produce is 60 bushels, 1 peck. The lowest average produce of any county is 31 bushels, 3 pecks.

Beans.—The highest average produce of any county is 34 bushels and 3 pecks; and the lowest 16 bushels.

Turnips.—The average weight per acre for the whole of Scotland is 14 tons, 13 cwt.; the highest produce in any one county being 22 tons, 15 cwt., and the lowest 10 tons, 10 cwt. As no distinction was kept between the Swedish and other varieties, the above weights are the average of the whole. Last year's crop of turnips in Scotland, was smaller than usual, and has been estimated at fully 2 tons under average.

Potatoes.—Average acreable produce for the whole country, 3 tons, 13 cwts. The largest produce per acre in any one county was 5 tons, and 10 cwts. As however, the distinction between sound and diseased tubers was not made in some districts, the above must be held as above the average of sound tubers.

Mangold Wurzel.—This is a comparatively new crop in Scotland. The weight of roots is largest in one district of Fife, being 23 tons, 14 cwts. In no other county or district does the average weight of this root come up to the average, as grown in England.

Carrots.—The largest weight per acre of any one county is 12 tons.

Cabbage.—There are more acres under cabbage than under carrots in Scotland, notwithstanding that the cultivation of this plant for stock is only recent. It is thought that its cultivation is extending, and will continue to extend rapidly, as the value of the plant becomes more known. The largest produce of any one county was 31 tons, 15 cwst.

Turnip Seed.—Large quantities of this are grown in Scotland for home, English and American consumption. The average produce of the Swedish variety may be taken at 22 bushels, and of yellow and whites at 14 bushels.

The area under cultivation in Scotland is generally known to bear but a small proportion to the extent under mountain pasture; but it will surprise many to be informed that only about one-tenth of the entire area of Scotland is under cultivated crops.

Draining and manuring have increased the productiveness of the soil sufficiently to warrant farther outlays.

Culture of the Potato.

(*Concluded from page* 146.)

4. TIME AND METHOD OF CULTIVATION.—After the ground has been plowed, and has become sufficiently dry, let it be dragged over once, only just enough to level the comb of the furrow slice. Then take a marker and set out the hills four feet apart, center and center. Plant two sets, 9 inches apart, in each hill, and place them in the same direction as the dead furrows. This will allow the cultivator to go lengthwise of the lands, and may cut within 3 inches of the sets. It is not wisdom to drop the sets on a heap in a little hole for the purpose of letting the cultivator go both ways. Plant the sets on the top of the ground, scatter on them one handful of air-slacked lime, and cover them up with two inches of soil. Many farmers will condemn this method, for, say they, if a dry season come, your potatoes will be very small. But it must be remembered that these dry seasons come very seldom, whereas ordinary wet seasons are what we have to guard against in attempting to grow sound potatoes. Early planting, to a certain extent, also disarms this objection. As soon as the rows of the young plants can be discerned by their leaves, let the cultivator be put through the rows, taking care to gauge the teeth so that they shall cut as near as possible to the sets without actually upturning them. The more care taken in marking out truly, the easier and more complete will the cultivator work. The advantages of the spring steel-toothed cultivator over the plow and hoe are known to every one who has used both. If the season be forward and growing, let the cultivator be put through the rows again in about a week's time after the first cultivation. The object in cultivating is to keep the soil light, open and lively, so that rain water can percolate freely, and the sun have a proper effect in warming up the soil, so that when you hill up, the new plants shall be suppplied with a covering of soil in the very best condition, for supplying and nourishing all the elements of re-production.

As soon as you perceive that the tops are almost

large enough to drop, put the cultivator through once more twice in a row, and let the teeth cut down as low as 6 inches, and then with the hoe, let the hills be formed of a proper shape, not high and conical, but flat and shallow, and as large superficially as possible, taking care to have all the channels betwixt hills open, so that rain water can have a free passage to the dead furrows. After making "grips," or small drains, in low flat places, with which our country abounds, the farmer has done all that is possible for a healthy crop of potatoes. The result will now depend upon the season. In a very wet season he will have to dig a few rotten potatoes; in a moderately wet season his crop will be certain and the tubers large; in a dry season they will be small but all sound.

5. The Time of Digging and Method of Preserving During Winter.—The best time for digging potatoes is just before the heavy fall rains, say the last of September or beginning of October. I have preserved potatoes in "graves" during winter, by putting over them two alternate coats of straw and earth and this is the only method that can be pursued if cellar room be wanting. Whether they be buried up in "graves" or put into the cellar, be sure to sprinkle a handful of air-slacked lime over each bushel-basket of potatoes. All the good done by the lime, in my estimation, is its effect upon the mould or fungus which adheres to the runners and the eyes of the tubers. Like the fumes of sulphur, it will destroy the fungi, but it will not alter the constitution of the potato; careful cultivation must do that.

In the spring, as soon as frost will permit, potatoes ought to be taken out of the cellar and spread over the barn floor in a layer not more than 9 inches thick; this will prevent any injurious sprouting before planting time, and although those potatoes which are intended for early summer use may wilt a little, still that is better than letting them remain in the cellar, a tangled mass of struggling vegetation.

I may as well state that I never sell any wood ashes, but sow them on my potato ground and garden. Soil for growing potatoes cannot be too rich in potash, as may be inferred from Boussingault's analysis of the ash of the potato and the potato top:

	Ash of Potatoes.		*Ash of Potato Tops.*
Carbonic acid,	13.4	Carbonic acid,	11.0
Sulphuric acid,	7.1		2.2
Phosphoric do.,	11.3		10.8
Chlorine,	2.7		1.6
Lime,	1.8		2 3
Magnesia,	5.4		1.8
Potash,	51 5		44 5
Soda,	(traces.)		(traces.)
Silica,	5.6		13.0
Oxide of iron, &c.,	0.5		5.2
Charcoal and loss,	0.7		7.6
	100.0		100.0

Every good crop of potatoes abstracts from the soil, of potash, per acre of tubers, about 58 lbs.; of potash, per acre of tops, about 135 lbs.! I would advise farmers to sow the ashes and not to drop them in or on the hill.

I have now done:—if these observations and deductions will induce a few good farmers to follow the course of cultivation laid down my labor will be rewarded. In this case example alone willl work upon the masses, for they are, at present, too eagerly bent on finding out some quack remedy for a disease of which they know nothing. John R. Chapman. *Oneida Lake, Madison Co, N. Y.*

Culture of Carrots.

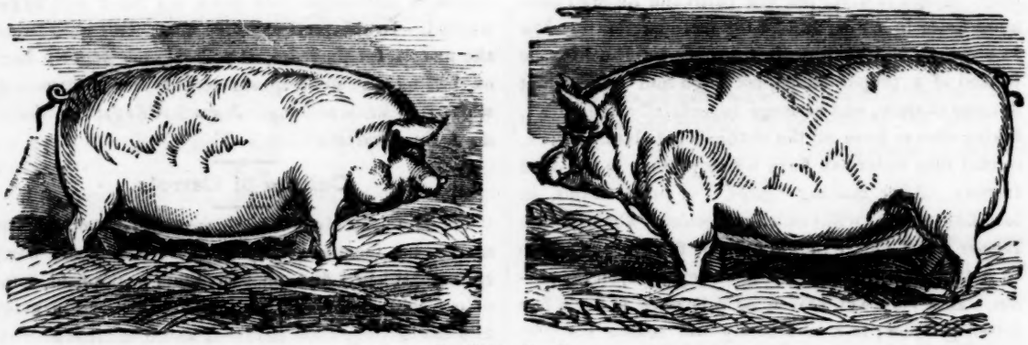
For the last six years I have raised more or less carrots for feeding to my stock in winter and early spring. When I first planted them in the field, some of my old neighbors shook their heads, and gravely told me that my time and labor would be thrown away. As the season proved wet and favorable to the growth of weeds, I found it difficult to keep the "wee-bits" of carrots sufficiently ahead to give them a fair chance, and began to think my venerable friends correct in their opinions. Imagine my surprise at finding my crop yielding at the rate of 600 bushels per acre and not half attended to at that.

Some time after the above trial, I saw, in *The Cultivator*, an account of their being raised on inverted green sward, with much less trouble and expense. Being a little inclined to *labor-saving*, I tried the plan; not, however, until last summer. The sod was plowed on the 10th of May, and planted about the 20th. Dry weather having commenced, the seed came up tardily; a few light dashes finally wet the earth sufficiently to give it a fair start. The patch had no manure, was not hoed, cultivated or plowed after planting. What few weeds came in were pulled out, one man cleaning half an acre in a day. So that the care and labor was not expensive; nor was the yield extravagant; 400 bushels per acre. Small as the number of bushels may appear, it is twice as great as an acre of potatoes. The whole expense, interest on land included, was only $16, or 4 cts. per bushel.

I have plowed deep and mixed large quantities of manure with the soil; trenched and manured, and ridged over manured trenches; but have never raised carrots before, for less than 6 cents per bushel; sometimes they have cost me 10 cents per bushel.

The green sward soil was limestone loam. The situation was in the middle of a pasture field where the sod was heaviest. The practice of thinning to 8 inches, single stands, is one that I do not regard as at all favorable to the quantity or quality of the crop. Four to six good sound roots may be grown in that distance if the seed is spread in the drill as it should be. If they are allowed to grow too large, they become pithy. I use the ornnge variety more than any other; it is more likely to yield fair crops in a succession of years. At this date we are feeding milch cows and working teams upon them, with marked benefit. Geo. W. Coffin. *Amenia.*

Ashes on Potatoes.—A correspondent of the *Boston Cultivator*, has experimented with ashes on potatoes for three years. The ashes diminished rather than increased the yield, and the potatoes where ashes were used were blistered, each year, so as to be unsaleable.



Suffolk Swine.

The above, cuts show the Suffolk boar "Moses Wheeler," and a Suffolk sow which as one of a pen of three, received the first prize of the Royal Agricultural Society of England in the year 1853. They were imported and are now owned by Messrs. Josiah & Isaac Stickney of this city. They are both very superior animals. The best judges pronounce the boar nearly the ultimatum of perfection in his species. He is large enough to weigh, with fattening, 450 lbs., dressed; he has great strength of constitution, remarkable symmetry and justness of proportion, with uncommon tendency to fatten. The figures, though generally faithful, fail to do the originals justice, in some particulars. The boar, for instance, is not represented quite as deep through the shoulders as he really is, and the sow's ears are drawn too large. It may be mentioned that these swine are considerably more coated than some Suffolks; they have fine, wavy bristles over the whole body.—*Boston Cult.*

Shape and Construction of Churns.

MESSRS. EDITORS—I have kept a dairy for many years, and taken *The Cultivator* as long, and my wife can make as good butter as the next woman, and still thinks she can learn more. We have used many patent churns, and many years ago became satisfied by actual and careful tests, that no square or box-shaped churn could be used without great loss, both in quantity and quality of butter. Cream should be churned even, and all come at or nearly the same instant. Cream poked down from the sides and lid of the churn, is worse than *lost*, because a large part goes to enrich the butter-milk, and another part is about half churned, and is mixed in the butter, and from this half-churned butter, the milk cannot be extracted, and it soon spoils the butter. I am satisfied that uneven churning, is one of the great causes of bad butter. Some years ago I became satisfied the cylinder churn would make the most butter, and I learned this fact by careful and accurate tests; but still there was a loss and uneven churning, by cream winding around the arbor and coating on the cylinder. About one year ago, I noticed a description of Fyler's Patent Butter Working Churn, made by Hall and Holmes, Brattleboro, Vt., and in the notice I saw the proprietors had my views of butter making. I immediately sent and purchased one; and in this churn I found all these evils removed. The churn is a cylinder; the dasher fills the churn well, and plays astride of breakers that cause a constant reaction, and no cream can coat on any part of it. I find, when the butter comes, it gathers at once. I also find it to make about ten per cent. more butter than the thermometer churn, and in much less time; and I have never seen any thing that would work the butter and mix the salt so quick or so well as this churn. It is very simple and easily adjusted, and on the whole it is the only churn I ever saw that was as good as recommended. As I find, after one year's trial of this churn, all I think we ought to expect, I most cheerfully recommend it to my brother farmer. J. H. *Mount Holly, Vt.*

We know nothing of the above churn or its patentee or manufacturers; but presuming our correspondent to have no interest in it, we give his letter in full, though the latter part of it would appear more appropriate in our advertising pages.

Cure for Hoof or Foot Ail.

MR TUCKER—I see in the *Country Gentleman* of April 19th, an inquiry for a remedy or cure of the Hoof or Foot Ail in Cattle. I have used for fifteen years, more or less every year, the following, on sheep and cattle, and never failed of a cure in every case by making two applications in the course of two or three days. To six quarts alcohol, add 1 lb. verdigris, 1 lb. blue vitriol, 1 lb. alum, 1 lb. saltpeter and lb. copperas. Dissolve the above in the alcohol, and then add half a pint vinegar and half a pint spirits turpentine. Saturate the parts affected thoroughly with a swab, and it has answered my wishes.

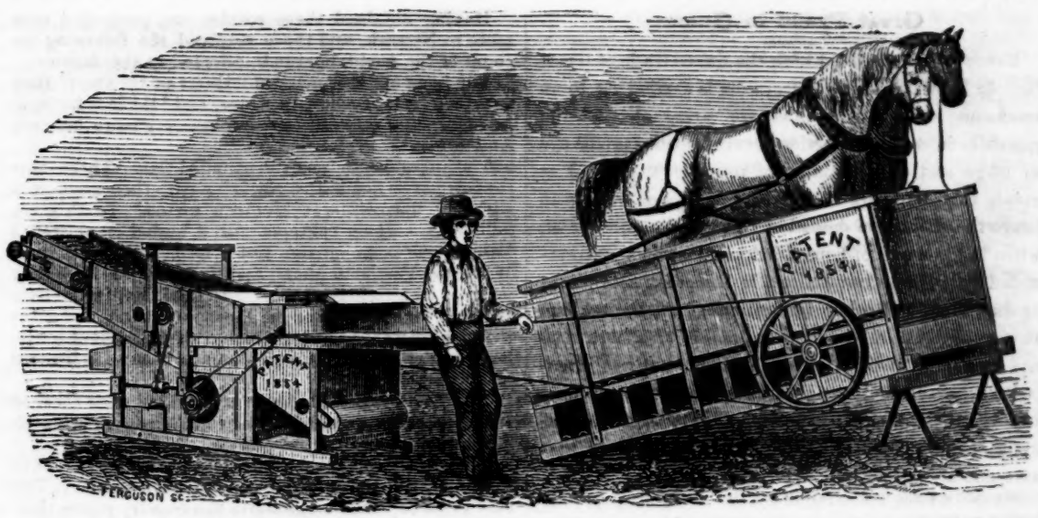
The above will very effectually destroy all maggots that may be found in ulcerated sores. LEWIS BAILEY. *Mavay Farm, Fairfax Co., Va.*

Choked Cattle and Wens.

MR TUCKER—I read the following recipes in *The Cultivator*, some ten or twelve years since. I have several times tested them, and knowing that they can be relied on, I would suggest that you would do well to republish them.

TO RELIEVE CHOKED CATTLE.—Mix a spoonful of gun powder with enough hog's lard to form a ball the size of a hen's egg—open the animal's mouth, and after pulling out the tongue lightly, chuck the ball of lard and powder into the throat, let go the tongue, and the work is done. I have tried this in two instances, and it produced immediate relief.

TO REMOVE WENS ON CATTLE.—Mix fine salt and tar, and rub the same on the wen. I have seen very bad ones cured in this way, in six weeks. W. S. P.



G. Westinghouse & Co.'s Endless Chain Horse Power,

AND COMBINED THRESHER AND CLEANER.

The horse power in its general appearance is nearly the same as that of several other kinds in use, yet it is quite different from others in the manner of putting on the gearing, for the purpose of changing the band wheel from one side to the other, or of obtaining different motions, the fastenings being so placed that the wheels are not liable to get loose while being used; and the chain is so constructed that it will keep uniformly tight in the different positions of the joints in turnin : the ends on the reels or circles, the boxes for the bearings to the shafts are of novel construction, having a wick feeder that carries the oil to the bearings on the shafts, so as to keep them uniformly oiled without waste of oil.

The combined thresher and cleaner is somewhat different from others in use. The separator that separates the grain from the straw, is a revolving sieve or screen, made into sections of wove wire, and fastened together with leather belts, and has a cam inside which causes it to vibrate as it revolves on the axles, causing the grain to be separated from the straw. The separator in its revolutions draws the grain to the fan mill where it is cleaned. The thresher is overshot, and has a new arrangement of the feeding hopper, so as to discharge the grain and dust through the machine. It can be driven from either side of the machine, the pulley being easily changed from side to side. G. WESTINGHOUSE & Co.

Inquiries about Mules.

MESSRS. EDITORS—Can you or any of your correspondents, give me any information with regard to Mules, and their adaptation to farm work. I believe it is conceded that they are the most profitable team; if so, why are they not more used? Yankees are not slow to tell in business, what pays best. Is it an antipathy without foundation, or have they not some radical defect? Is it his appearance or his habits? Can he be worked with horses—can they be pastured with horses—or are they unruly? When left idle for some time, as farm horses generally are, are they not more vicious and stubborn?

I read an article in the *Rural New-Yorker*, that conveyed the impression that they could not be pastured with horses, with any safety to the horse—that an ordinary fence would not confine them, and that they should be worked 6 days out of 7, and the 7th confined to the stall. An answer to the above will oblige MYNDERSE WYNKOOP. *Catskill, April* 2, 1855.

MR. TUCKER—Can you, or any of your various readers, give me any information in regard to mules. I am very anxious to learn something about them, and their suitableness for farm purposes. There is a Spanish jack, owned in this town, that was bought in New Jersey last season, at an enormous price ($1000)—said lo be large, (14½ hands high,) and of good color, (dark brown.) Would it be more profitable to raise mules for the farm and market, than horses? The jack being convenient, and the price but little more than for a common horse, any information you can give on the subject would greatly oblige MANY FARMERS. *Amsterdam, April* 16.

We shall be greatly obliged to any of our readers who will furnish us with information in reply to the above inquiries. In the mean time we would refer our correspondents to the Cultivator for 1852, pages 144 and 370, where they will find articles on the "Advantages of Mules over Horses," and on "the Rearing of Mules for Market," in which they will find many facts which tend to confirm the opinion often expressed, that mules may be more profitably bred, either for the farm or for market, than horses.

DEVON HERD BOOK.—SAXTON & Co., Ag. Book publishers, New-York, are about to issue an American edition of Davy's Devon Herd Book, with additions of animals in this country, by AMBROSE STEVENS, Esq.

Great Fraud in Guano.

Every one acquainted with the guano trade of Great Britain is aware that adulteration is carried on to an enormous extent. The laws are stringent, and the penalties in case of detection severe, yet the profits are so large and the difficulty of *proving* the fraud so great, that numbers of dishonest men are willing to brave the chances of detection. The agricultural press, when in the hands of honest, independent men, untrammeled by business connections, is the great safe-guard against these and other impositions; but, though the British agricultural journals are mostly of a high tone and character, their price prevents an extensive circulation; and, indeed, comparatively few farmers take any agricultural paper whatever. Under such circumstances, therefore, it is no wonder that fraudulent manure dealers reap a rich harvest.

We have long been convinced that there were parties in this country engaged in manufacturing various artificial fertilizers which are of little value—and we have done our part towards exposing their fraudulent practices. We were also aware that inferior guanos are often sold under an assurance that they are equal or superior to the best Peruvian, but we had no idea that there was any one in this country engaged in the *manufacture of guano*. We are sorry to say we have been deceived. Numerous as are our agricultural papers, great as are their circulation and influence, they are found insufficient to prevent unscrupulous men from *attempting* to palm off on the credulous farmers of our broad domain a comparatively worthless article, at a high price, under a *false name*, and, what is most to be regretted, it is one of the professed friends and teachers of scientific agriculture, that is engaged in this deception.

How we discovered this fraud, we are not at liberty to state. Suffice it to say, that some six weeks ago, we were informed that an article known as Mexican guano was taken to an establishment, near Newark, N. J., and there mixed with plaster, salt, sugar-house scum, Peruvian guano and quick-lime, the whole ground up together and put in bags, marked "CHILIAN GUANO."

Following the directions of our informant, we proceeded to Newark, and there found a large heap, of about 250 tons of Mexican guano, and some 200 tons of the *manufactured article* in bags, marked "Chilian guano," as we had been informed. We also learned that a considerable quantity had already been shipped to New-York and Boston, and one gentleman said he believed a good portion of it had been sent to England.

In New-York we were offered the Chilian guano, if we would take it in quantity, at $35 per ton.

We took samples of both the Mexican and Chilian guano, and made careful duplicate analyses of them in the laboratory of Prof. CARR, of this city, chemist to the New-York State Agricultural Society. The following are the mean percentage results of the analyses.

MEXICAN GUANO.

Sand,	0.5
Organic matter,	5.0
Phosphate of lime,	26.0
Carbonate of lime,	68.0
	99.5

CHILIAN GUANO.

Water,	4.0
Sand,	2.4
Organic matter,	15.3
Phosphate of lime,	24.5
Sulphate of lime, (plaster,)	9.5
Chloride of sodium, (common salt,)	6.2
Carbonate of lime, (chalk,)	37.6
	99.5
Ammonia,	1.06

Having obtained these results, we proceeded once more to Newark, and there received the following account of the modus operandi, adopted at the factory.

The bags are first marked "CHILIAN GUANO;" they are then moistened with water, and laid in a heap, in layers, *with a quantity of Peruvian guano between each layer.*

The sugar-house scum is pounded fine. Three barrowfuls, of "five half-bushels" each, then are mixed with six barrowfuls of Mexican guano. To this are added 1½ bushels common salt, 1 bushel of plaster, 3 bushels Peruvian guano and ½ bushel of quick lime. When the Peruvian guano and lime are added, "they make it tremendous strong." In other words, the lime sets free the ammonia of the Peruvian guano, and gives the manufactured Chilian guano a strong smell of hartshorn, which, to the unreflecting, is a sure indication of a valuable guano.

The floor, where the bags were filled, was covered with Peruvian guano, in order to make the article look as like genuine guano as possible.

What is Chilian Guano, and why is this name given to to it instead of the better known Peruvian Guano? The only genuine Peruvian guano in this country comes thro' the hands of BARREDA BROTHERS, and has their mark upon it; so that it would not be easy to sell a spurious Peruvian guano. Chilian guano is subject to no such regulations, and the books describe it, when "fine,"—and the manufactured article is made fine by grinding—as a "*very* valuable variety, equal to that of the *very best* Peruvian." The name, therefore, has been chosen with consummate cunning.

The *Oxford (Me) Democrat* states that it has received a circular containing an analysis of "Chilian guano," made by Prof. HAYES, "Assayer to the State of Massachusetts," and which is "*Endorsed by* Prof. MAPES." This analysis represents the Chilian guano as containing 27.9 per cent. of "azotized organic matter and fixed salts of ammonia." This is a much larger quantity than the sample we analysed contained. The actual quantity of ammonia or nitrogen is not stated, and it is impossible to judge correctly of the value of the manure without it. Fermented saw-dust, or peat, may be termed "*azotized* organic matter, with fixed salts of ammonia;" and we can see no use of such phraseology except to deceive.

Seeing it stated in the *Southern Farmer* that Chilian guano was about to be tried on the Model farm of the Union Agricultural Society at Petersburg, Va., we wrote to the Superintendent, Mr. NICOL, for information in regard to it. He replied that it was obtained from Messrs. POWLETT & HARDY of Petersburg, who received it from Mr. S. of Boston. The price was $40 per ton. Mr. T. S. PLEASANTS, the guano inspector at Petersburg, informs us, that having made a chemical examination of the Chilian guano, he told Messrs. P. & H. that "it was a fraud." On this, Messrs. P. & H. wrote to Mr. S., who replied that the opinion of Mr. PLEASANTS "was very different from other gentlemen, mentioning the names of Dr. HAYES, and the Inspector at Richmond, Dr. POWELL."

We have now presented the facts in regard to this Chilian guano manufacture, so far as we have been able to obtain them. Our readers can draw their own inferences. Even was the article itself valuable, it would be a gross deception to palm it off as genuine guano; but the article is comparatively worthless, as our analysis fully proves. Thus a ton of it contains 490 lbs. insoluble phosphate of lime, which at two cents per lb.—a high estimate—is $9.80; 124 lbs. of salt, worth say $1; 190 lbs. plaster, 50 cents, and 21 lbs ammonia at 12 cents per lb., $2.52. This is $13 82 per ton. Allowing that the non-azotized organic matter, and carbonate of lime is worth $1.18, we have fifteen dollars as the outside value of a ton of the so-called "Chilian guano." And for this the farmers are asked $40, and are told that it is better than Peruvian guano!

Since writing the above, we have received the May

number of the *American Farmer*, containing the report of the Inspector of guano at Baltimore, Md. He says, "two lots, consisting of 100 bags each, were consigned from New-York and Boston, *purporting to be 'Chilian Guano,' and so marked.* An average sample of that from New-York contained ammonia 1.78 per cent and bone phosphate of lime 21.10 per cent. That from Boston contained 2.56 per cent ammonia and 21.10 phosphate of lime." This is a little more ammonia than we found, and a little less phosphate of lime. The analyses show, however, that the article is comparatively worthless, even taking the highest figures.

Silesian Sheep Sheared.

Messrs. WILLIAM CHAMBERLAIN of Red Hook, in this state, GEO. CAMPBELL, of Westminster West, Vt., and WM. H. LADD of Richmond, Ohio, have been for some time past, as most of our readers probably know, engaged in the introduction of Silesian Sheep into this country, and in breeding them for their own use for wool-growing purposes, as well as for their dissemination among our farmers. It will be remembered that Mr. CAMPBELL was the first to import these sheep, having, after traveling through Spain, France and other portions of the continent, selected them as best adapted, in his estimation, to our wants. He also selected a number which were brought over by Mr. Chamberlain about a year ago, and last August a third importation arrived. These flocks have been kept at his farm in Duchess Co. during the past winter, chiefly under the care of a German who came with the second lot, and of whose ability in this particular field, their condition gives good evidence. While the Silesians, like other fine wooled sheep, have not the roundness and beauty of form, which commends the pure South Down at once to the admiration of the least experienced beholder, the beauty of their fleece, its weight as compared with the weight of the animal, and their manifest value, not only as a pure breed, but when crossed with others, combine to make them well worth the attention of American wool growers. If they are scarcely as *prepossessing* as some others, those that have known them best, have constantly become more and more convinced of their excellent quality.

Last week, the gentleman named met at Mr. Chamberlain's to be present at the shearing of a portion of the flock, and we were glad of the opportunity of witnessing such a test of their productiveness. Mr. C. has a farm of over 500 acres, a part of it swamp lands reclaimed to fertility by drainage, and all of it, judging from the hurried inspection of a visit necessarily brief, in excellent order. His farm buildings are large and commodious—far more so than is common here at the east, while they would be an astonishment and admiration to western farmers, who leave their stock mostly to the shelter of the wide heavens. But CARL, the Silesian, met our expressions of delight by the remark that "in his country" they would not be thought so very fine, after all; and we contented ourselves with the wish that *our* farmers would give the subject of housing their animals properly, one-half the attention which our foreign friend was in this case disposed to underrate.

The sheep are kept on the ground floor—the ewes separate from the lambs, and all trained to the best possible behaviour—to go and come at Carl's bidding, and to follow his footsteps like a favorite dog. They are numbered by ear marks—notches made by means of an instrument such as shoe-makers use for punching holes, except that its punch is angular, shaped like the letter V, instead of round. He can tell at a glance the number of each, opposite to which in a book kept for the purpose, is recorded every fact of interest in a "mother-lamb's" biography—the time of its birth and successive shearings, of its taking the buck, dropping its lamb, and all memoranda in regard to the fate of its offspring—and similar incidents in the case of rams. Thus he has always present accurate data from which any fact may be ascertained, and he makes a daily record of any memorable occurrence for future reference.

We have a minute of the weights of several fleeces, which may we think be taken as fair examples of the number shorn, and as affording ample grounds for a general estimate of the average productiveness of the breed. It is proper to say of them, that they were unwashed, but generally very clear of dirt; that the ewes had suckled their lambs through the winter, and a portion of them had had to undergo the rigor of the voyage to this country, and that the age of the fleeces was in most cases less than a year. They were pretty evenly shorn; though our authority, Carl, insists that the "German girls" would leave them a little smoother, taking the wool off "so, as by one cut." The felt-like appearance and feel of the shorn lamb, attested the fineness and thickness of the wool. But to begin with our notes:

Ewe No. 132. Fleece of 11 months' growth, weighed 8 lbs 3 oz. Carcass, (after shearing,) 70 lbs. Her lamb dropped 20th Dec.—suckled through the winter — present weight 51 lbs

Ewe, No. 100. Two years old—fleece of 11 months' growth —weighed 7 lbs. 8 oz. Carcass 73 lbs Her first lamb, now 4½ months old, weighs 54 lbs.

Ewe 111. Same age and fleece of same growth as No. 100—weight of fleece 8 lbs.—of carcass 78 lbs. Lamb dropped March 2, now weighs 25 lbs.

Ewe. No. 156. A very fine specimen—3 years old—fleece of 11 months' growth weighed 7 lbs. 10 oz. Her lamb, dropped Dec. 15—weight 45 lbs.

Ewe, No. 213. Three years old—weight of fleece (11 months' growth,) 9 lbs.—of carcass 90 lbs. Her lamb, dropped Dec. 17, she suckled until April 2, when it died.

Ewe, No. 326. Fleece 9 lbs. 5 oz. Carcass 84 lbs. Lamb one week old.

One fleece from a Ewe of last August's importation, being only of 10 months' growth, which is to be considered, as well as the trying voyage the animal underwent, and her suckling her lamb, weighed 7 lbs 3 oz.

One Buck, No. 13. Imported by Mr Campbell in 1851—five years old. His wool of 13 months' growth—weight 14¾ lbs. (It should be remarked that his wool was unusually free from dirt, and was therefore estimated before shearing at less than its actual weight by most of the party; also that he had been put to his best use during and since last fall, having served upwards of 100 ewes.) Weight of carcass 125 lbs., and in healthy condition, though not fat.

In these statements, there are, as we have hinted several drawbacks on the weight of the fleeces to be taken into consideration. As proportioned to the weight of the animal, and in the case of the ewes, to the size of the lambs they have raised, they can but strike the reader as well worthy of note. We have stated all the facts that seemed to have a bearing on the case, and will leave our readers to decide on its merits for themselves. We presume that either of the gentlemen whose addresses are at the head of this article will be happy to give any further information that may be desired. Their flocks, now at Mr Chamberlain's, number nearly two hundred head of the Silesian breed, and about one hundred French Merinos. The lambs, of which there were in one pen about 80, of from 4 days old to as many months, presented as fine and happy a sight as we have perhaps, ever seen. There is much to commend in the way in which they have been raised, each one of this large number having to all appearances had the care that a man with a small herd of cattle might expend upon every particular individual; and had we more space now at command there are many particulars that might be advantageously mentioned.

An Experiment in Soiling Cattle.

LUTHER TUCKER, ESQ.—I very much regret that, in reply to your inquiries, relative to my experiments in soiling stock, I am not able to give you a more detailed and satisfactory statement, yet the little experience which I thus far have, has been so satisfactory to myself that it is most cheerfully communicated, in the hope that others may be induced to give it a trial, for I am aware that any particular process in farming, to be generally valuable, must stand the test of repeated trials, made under the various circumstances which modify the results in different regions.

During the summer of 1854, my stock on my home farm, consisted of a span of horses, one yoke of oxen, a three year old short horn bull, fifteen cows and twelve calves.

As I wished to break up the greater part of my old pasture, and could not well appropriate other lands to that pupose, I resolved to make up the deficiency by feeding in the stable all except what they could graze upon a six acre lot of old pasture.

For this purpose I sowed four acres of corn in drills, three bushels to the acre; part of it as early as the seed would come, and all before the first of June. The land was in good condition, having been plowed deep and well manured; and if cured, the yield would probably have been from four to six tons to the acre. In addition to this, before the corn was fit to cut, a little less than two acres of clover was fed green to the stock, making in all say twelve acres of land, upon which the above stock was well summered, and in fact were in much better order in the fall than most herds in this region, in consequence of the short feed occasioned by the severe drouth.

The teams and bull were constantly stabled, and received dry hay till the first week in June, when they were put upon green cut clover; but to prevent their scouring, as well as the cows, when first put upon it, a small portion of dry hay was mixed with the green clover for a few days, when it was gradually abandoned.

During the flush of feed in May and June, the cows grazed a large portion of their food from the six acres of pasture, the deficiency being made up in dry hay till the clover came.

Perhaps it required two weeks longer keep in the spring on hay, than if the cows had been turned upon abundant pasture. They were stabled nights, being put up before milking, and not turned out till after milking the next morning, and received evening and morning as much clover as they would eat, till about the 10th of August, when the first sowed corn had got its growth, and could be cut without loss. Upon this they were fed till near the first of December, when the corn raised on the four acres was gone. That portion of it standing when frost came, was cut and cured in small bundles set up in shocks, upon which the cattle fed nearly as well as when green.

The corn sowed was the common yellow, but this spring I am going to sow sweet corn, which I am sure will produce a heavier growth, and much better quality.

The cows thus fed, gave a larger quantity of milk than they have ever done upon pasture alone, and did not shrink it, in the fall, from the drouth as if pastured. This was very favorable to my calves, with my mode of rearing them, which is upon skimmed milk and buttermilk with a little meal in it, which they receive as long as the cows give milk in the winter; for the amount of milk for them did not diminish as it would, had the cows been pastured alone, and shrunk of their milk in the latter part of summer.

My cows are of the largest class, being thorough bred and grade short horns, none of them less than fifteen-sixteenths Durham, and would require as much feed as any class of cows.

The only drawback is the labor required to feed and care for the cows. This will amount to about two hours extra labor per day, say $1.00 a week, or $30.00 for seven months. But this is much more than compensated in the greater amount and better quality of the manure made and saved in this way, for cows' manure, dropped about a pasture in summer, spoils nearly as much grass the first year, unless it is taken up and carted off, as it augments the growth the next year.

In order not to mislead any one, it should be added that to feed so many cattle from so small an amount of land, it must be in good condition, rich enough to yield at least three tons of hay or a hundred bushels of corn to the acre. Respectfully yours, ALPHEUS MORSE. *Eaton, April* 29, 1855.

The New-York Farmers' Club.

MR. EDITOR—I have lately read in the *New-York Tribune*, the proceedings of the Club of the American Institute. A great many of their sayings are very erroneous, judged by practical experience; and I have waited for some abler pen to contradict what is so grossly wrong in practice. I see that, a few days since, SOLON ROBINSON brought up a discussion on plowing, in which he advocates that, to keep the land level, farmers ought to begin in the center of the field and gee about, plowing round and round until the whole field is plowed; and he was backed in his plans by others of the club. Now, if the men who compose the club would only discuss such topics as they understand, or else such as farmers *do not understand*—such as hydrogen, oxygen, carbon, silica and all the different kinds of phosphates—we farmers would not know how ignorant they were in the first letter of the alphabet of agriculture. Every one must know that plowing or digging is the first; and none of the gentlemen who composed that club could have been farmers at all; they may own farms, and large farms, but there could not have been any farmers amongst them, else they would certainly have put an end at once to so silly a discussion. I venture to say that there is not a young man eighteen years of age, who has plowed two years with a *farmer*, but knows how to plow land to keep it level; but land owners, that are not farmers, can no

more learn young men to plow or do any other farm work perfectly, than I, without any knowledge of the trade, could learn a man to be a blacksmith, simply because I owned a blacksmith shop. But let us see what kind of a field Mr. Robinson would make, by beginning at the center, and "geeing" round until he plowed the whole field. It is 50 years this spring since I first began to hold the plow. Suppose I had commenced at the center of the field, and "geed" round, and plowed the field 25 years out of the 50. I would ask Mr. ROBINSON, Professor MAPES, and all the others who compose the club of the American Institute, what would have been the appearance of the field now; how high the mound would have been in the middle, and how deep the ravines around the fence, provided I had fallowed 25 years, plowing three times each year, and each furrow ten inches wide and seven inches deep? But if this was pointed out, I think the idea would occur to them, that the plowing ought to be reversed; that is, *gee* round the one plowing, and *haw* round the other, as any one that is a farmer would do to keep his head lands level, or the ridges on his fields.

I would advise these gentlemen to exclude from their meetings, the reporters for the public press, until they have gone to a farming school, and learned their A B C; else they will put *book* farming more and more in disrepute with practical farmers. A WESTEN NEW YORK FARMER.

Variable Fruits.

We have received a communication from Jefferson Valley, the length of which prevents its insertion en tire, on the variable quality of the *Baldwin* and *Yellow Bellflower* apples. The writer admits the free growth and productiveness of the Baldwin tree, and the uniform fairness of the fruit, but questions the longevity of the tree, and adds, "There is no apple with which I am acquainted, that varies so often from insipid to first rate. If you have a warm, sweet, early soil, it will do to graft it, with a fair expectation of getting fruit that would be valued by a connoisseur; but if your land be cold and wet, you may have fruit and blighted expectations both at the same time. A Rhode Island Greening or Roxbury Russet would be far preferable on such a soil."

The influence of soil as here stated, may be often similar in effect, but we have seen much variation in this fruit on soils quite similar in character, but on which the trees were subjected to different influences by culture, age, seasons, and other causes, not yet fully understood.

Our correspondent we think falls into one of the errors which he attempts to point out, by judging from isolated facts. He states that the Yellow Bellflower is worthless unless planted on a *clay* soil, and states in proof that it succeeds finely on the clay soils of Newburgh and Fishkill. We could add other instances, where it has failed on light soils; yet to show that there must be some other reason than this difference merely, it may be added that the finest flavored Yellow Bellflowers that we ever tasted, and in repeated instances, grew on soils of a decidedly sandy or gravelly nature.

The American Pomological Society has recommended several fruits, as being adapted to certain localities only; but there is yet hardly enough of experience to point out precisely what localities will be likely to suit them. The facts we have just stated show that conclusions may be adopted that need revision; and our present aim should be to collect all the facts from accurate sources, which may assist in this inquiry.

The Use of Leaves.

The office and utility of leaves are becoming better understood by cultivators than formerly; yet we find a good many still adhering to the old belief that the sun's rays, directly shining on forming fruit, are what perfect it, independently of other influences.

On this subject, theory and practice have been invariably found in perfect accordance with each other. The principles of physiology teach us that the sap of a tree, when it passes in at the roots, remains nearly unchanged in its upward progress through stem and branches, until it reaches the LEAVES, where, being spread out in those thin organs, to light and air, it undergoes a complete change, and thus becomes suited to the formation of new wood and new fruit. Strip a rapidly growing tree of its leaves at midsummer, and from that moment the supply of new wood ceases, and it will grow no more till new leaves are formed; and if it have young fruit, the growth and maturity of the latter will cease in the same way. A few years since, a Yellow Gage plum tree lost all its foliage from leaf-blight, when the plums were not fully grown, and while yet destitute of flavor. The fruit remained stationary and unaltered, until, in a few weeks, a second crop of leaves came out. They then swelled to full size, received their crimson dots, and assumed their honied sweetness of flavor.

The object of pruning should be, therefore, to allow THE LEAVES to grow to full size without being injured from crowding.

We find the following corroborative fact stated in a late number of the New England Farmer:

We once knew an intelligent lady, and one who understood much about horticulture, strip her grape vines of a portion of their leaves, in order *to let in the sun and ripen* the fruit; but to her surprise, where the leaves remained as Nature had disposed them, the grapes were the earliest, and every way the best. This led her to investigate the matter, when she was delighted to learn that the leaves were not only the *protectors*, but the *caterers* of the fruit, constantly elaborating and supplying it with the pabulum it required to bring it to perfection.

COL. WARE'S COTSWOLDS.—In the letter from Col. WARE in the COUNTRY GENTLEMAN for March 8, and the CULTIVATOR for April page 117, the *note* should have been given as an extract from the Report to the Maryland Agricultural Society, June 1854, *American Farmer*, page 378.

Answers to Inquiries.

MINERAL PHOSPHATE OF LIME.—*Horace Morrison, Peterborough, N. H.* There is no mineral phosphate of lime for sale in Albany. A considerable quantity of it has been obtained from the mines in Essex County, N. Y. It is reduced to a fine powder, and applied to the soil without decomposition with acid. We believe it has been used to some extent in the southern states, but with what success we are not *satisfactorily* informed. Certainly, we should expect little immediate effect from it. Could it be obtained cheap enough, it might be used to good advantage in the manufacture of superphosphate of lime; but so long as *animal charcoal* is a *cheaper* source of phosphate of lime, it will not be used by intelligent manufacturers.

LIME AS MANURE.—*T. Y. Simons, Henderson, N. C.* The best method of applying lime, is one of the many vexed questions of scientific agriculture. The English farmers have been in the habit of using a large quantity—say six tons per acre—at once; and we have heard those who have had great experience, stoutly contend, that a less quantity should never be applied to any soil that needs liming. Nevertheless, they failed to convince us, not only that a less quantity could not be advantageously used, but that it is not the better practice to apply a small dressing, say 40 bushels per acre, every four or five years, than a larger quantity at longer intervals. We will give an article on this subject in a future number. In the meantime we should like to hear the opinion of those who have had experience in the use of lime as a fertilizer.

GRASS FOR SWAMP LAND.—*C. P., Cape Vincent, N. Y.* We do not know of any better grass for swamp land than red-top. If any of our readers do, will they please inform us?

RAPE.—*H. B. Hammon, Bristolville, Ohio.* The cultivation of rape *for seed*, is very similar to the common method of raising turnip seed. At least this is the best method, and the one generally adopted on the continent of Europe and in Great Britain. The seed is sown in rows, a foot apart, in a well prepared bed in July. In October, the plants are transplanted, and the seed is ripe the following July. How far such a plan will answer here with high labor—whether the plants will stand the cold of our northern winters, we are unable to say. We think, however, some other method must be adopted before the cultivation of rape for seed becomes at all general. Rape, like the turnip, is a biennial; but like it when sown early in the spring, in a warm climate, *it will produce seed the same year*. Turnip seed so produced is worthless, because the turnip produced from it will not bulb; but this objection does not hold good in the case of rape, and, although the seed is inferior in quantity and quality, we question whether, in this country, this will not be the cheapest method of raising it for oil-making purposes.

We should sow the seed in rows 2½ feet apart, about the first of June; thinning the plants out afterwards, about six inches apart. Thorough cultivation and constant working of the soil between the rows is desirable. A drained, naturally moist soil, abounding in vegetable matter, produces the largest crop, but a loamy, upland, "wheat soil," yields the best quality of seed. Superphosphate of lime drilled with the seed gives the rape plants a vigorous growth early in the season, but a rich nitrogenous manure is needed for the perfection of the seed.

As a green food for sheep, rape is extensively cultivated in England, especially on the fens, where turnips of good *quality* cannot be raised. The land is thrown into ridges about 2 feet apart, as for turnips, and, about the middle of May, 5 lbs. of seed per acre is drilled on the ridges in conjunction with superphosphate of lime. We have seen immense crops of it so raised, which furnished sheep with a most nutritious food from August till the end of the year. Whether it will succeed in this hot climate, is a subject on which we have not sufficient information to form a decided opinion. Will those who have experience in the cultivation of rape for seed or as a green crop, give us their views.

RED TOP.—*J. T. C., White Store, N. Y.* For seeding down low land with red top alone, one and a half bushels of seed per acre would be none too much. EMERY BROS. of this city, sell the seed at $1.50 and $1.75 per bushel. The cheaper seed comes from Philadelphia, and is considered as good for low land as the more expensive Northern seed, which is better for dry up-lands.

SELF ACTING TAIL BOARD.—Having noticed in Stephens' Book of the Farm, an account of a "Self acting Tail-board," for carts, used in England, I would be glad to learn through your paper, if there are any in use in this country, and directions for constructing. If there has been none used within your knowledge, cannot some of your ingenious correspondents furnish the desired information? EDWARD HILL. *Swansboro, Onslow Co., N. C., April* 20, 1855.

CULTIVATION OF MANGOLD WURZEL.—*A Subscriber, N. Y.* We cannot say which is the best for milch cows—carrots, silesian beets, or mangel wurzel. For horses we should prefer carrots, for milch cows, perhaps, mangel wurzel. All three are excellent roots that you cannot well grow too many of. We have given an article on the cultivation of carrots in a previous number of the COUNTRY GENTEMAN. For mangel wurzel the soil should be made as rich, deep, and mellow as possible. Plant in rows two and half feet apart and one foot to 15 inches apart in the rows. Soak the seed 24 hours before sowing, and drop four or five seeds in each hill, thinning out all but one in a hill at the first hoeing. Superphosphate of lime, half an ounce in each hill, *dropped with the seed*, will be very beneficial, and *will pay* if you get a good article. The last week in May is early enough in this climate to sow mangel wurzel. Silesian beets may be cultivated in the same way.

BASKET WILLOW.—*C. S. Perrine, Randolph, Vt.* There can be no doubt that the judicious cultivation of the basket willow, is now, and will continue to be, highly profitable. We see nothing improbable in the assertion of your neighbor that "from $150 to $200 per acre can be made from them." Low, swampy land, in our opinion, can be used in no other way to better advantage.

F. F. GIBSON, *Matagorda, Texas.* L. G. MORRIS, Mount Fordham, Westchester Co., N. Y., has some excellent Essex and Suffolk pigs. You can apply to him "with confidence as to being fairly dealt by."

DISSOLVED BONES.—*M. Wynkoop, Catskill, N. Y.* With bones at the price you name—$10 per ton—and sulphuric acid at from two to two and a half cents per lb, you may manufacture and use superphosphate of lime with profit—as a manure for turnips, lettuce, celery, tomatoes, cabbage, and *possibly* for Indian corn.

S. TOWNSEND, *Magnolia. Ind.*—We should prefer Peruvian guano, for wheat or corn, to any superphosphate of lime in the market.

TILLINGHURST'S CHURN.—*C. D. S.* We do not know where it can be procured. We shall be glad to receive the notes on gardening to which you refer.

WIRE FENCES.—Allow me through your valuable paper to inquire if wire fences have been found to answer a good purpose; have they proved durable, and efficient in keeping out horses, cattle and hogs, and what is the cost of them per yard. What sized wire, and *what kind* is the best, where can it be procured on best terms, &c. Please give some instructions for making the fence in the best manner, and you will much oblige me. I have some volumes of the Cultivator, the latest of which (1850) has a number of articles on the subject of wire fences, but before making

one I should like to have the result of longer and more recent experience. I have a river front of some 3000 feet subject to overflow, and wish to get a permanent fence—a row of locust extends along the entire front, to which I propose to fasten the wires with staples. The trees are rather irregular but not much out of line, and about five feet apart. How would a hedge of Osage Orange answer in such a situation? Would it stand the overflow which occurs only in winter or very early in the spring? B. F. T. *Louisville, Ky.*

Stump Machine.—I would like to inquire through the columns of the *Country Gentleman*, if any of its Central New-York readers know where a stump machine can be hired, and do they work by the stump or by the acre? also how much does it cost per acre to clear off a cedar swamp, all fit for the plow? There are 7 or 8 acres; half is chopped off and drained, but the other is not drained. Oneida. *New-York Mills.*

Windmills.—J. F You will find a description of Holliday's Windmill which we think will answer your purpose, in the 4th vol. of the Co Gent, p. 254. We do not know its cost or the manufacturer's address. If any of our readers have used this machine, we should be glad to learn whether it has worked satisfactorily or not.

Orchard Grass.—Can you tell me whether orchard or cocksfoot grass are to be had at New-York or any where on the rout from New-York to Cleveland, the nearer to Cleveland the better. James W. Suliot.

We presume it can be obtained of H. C. White, Buffalo. If you will furnish your P. O. address, we will send the Jan. Cultivator as requested.

Mowing Machines.—Wishing to purchase a mowing machine, and having read R. L. Allen's advertisement of Allen's patent mower, in your valuable paper the Country Gentleman of January 4th, and liking the light draft as well as the moderate motion of the team, it has induced me to inquire through your paper, if it has been used by any one of your subscribers. Any imformation from those who have used it, will oblige a subscriber. S. S. S. *East Moriches.*

Western Ag. Papers.—I think of going West, and will be much obliged if you will inform me through the Cultivator, from what paper I can obtain the best information relative to farming there. A Constant Reader. *Salem, Mass.*

We can heartily recommend the *Prairie Farmer*, Chicago, Ill., monthly, $1—the *Michigan Farmer*, Detroit, monthly, $1—the *Ohio Cultivator*, Columbus, semi-monthly, $1, and the *Ohio Farmer*, Cleveland, weekly, at $2.

Water-lime Cement for Stables.—I would like to inquire through the columns of your paper whether there is a good substitute for plank for stable floor? Would water lime answer the purpose; is it better than quick lime, or would the two mixed be preferable? L. S. Wells.

Will some of our experienced correspondents answer the above.

Salt and Lime Mixture.—*J. N. C.* We believe it is *impossible* to get salt and lime to re-act on each other so as to produce chloride of calcium and carbonate of soda. Chloride of calcium will decompose *carbonate* of ammonia, forming carbonate of lime and chloride of ammonia. But if carbonate of soda is present the chloride of ammonia would of course be reconverted back into the volatile carbonate of ammonia and chloride of sodium. So that, even would the change take place that is claimed by the advocates of the salt and lime mixture, it would not be of much utiltiy as a "fixer" of ammonia in composts.

N. Anderson.—You will find some excellent articles on the cultivation of hops in the *Cultivator* for 1853.

Longrooted Clover.—A correspondent has seen in some work a description of a longrooted clover which came from Hungary, and which from the description may prove valuable in seasons of drouth. If any of our readers know what it is, we shall be pleased to hear from them.

Corn for Fodder.—A subscriber in Vermont, wishes to know what variety of corn is best for cultivating as green fodder for cows. Will some of our readers who have had experience sufficient to decide the point, give us their opinion.

Can you or any of your contributors give me any information, as to a remedy for stoppage in cows' teats, up near the udder. On trying the probe, it appears to be formed on the inside of the teat, and to fill it nearly up with the exception of a small hole in the middle. M. S. *Hobart, N. Y.*

Disease in Cattle.—The cattle of this place have been affected with a disease, that, so far, I have been unable to learn its name, and what is of more importance, its cure. I write to know if you, or any of your subscribers can give me any information. Its symptoms are various. Some of the cattle have their throat between their jaws swell, and become hard, while others have several small bunches on their jaws and throat. Some of these we have opened, and found matter in them. Some of these have got well, while others have not. This is its mildest form. Some have their throat, jaws, lips and tongue, swell, while they are continually slobbering and frothing at the mouth. Others simply slobber without swelling much. In all cases it takes their flesh very fast. Have you ever seen anything like it? C. K. B. *Denmark, Iowa.*

The Chinch Bug.—The Co. Gent., No. 117, (March 29, p. 201,) asks for information respecting the chintz bug, as it is incorrectly called. The chinch bug is described in 2d edition (1852) of Dr. Harris' "Treatise on some of the Insects of New England, which are injurious to vegetation," page 172; and an account and en larged figure, may be found in the Prairie Farmer for Dec. 1845, vol. 5, p. 287; see also Prairie Farmer for Sept. 1850. Dr. Harris calls it "Lygæus leucopterus," of Say.

Those persons who have but little knowledge on the injurious insects, so plenty on plants of all kinds, will find Dr. H's work just the thing for them. Beside the descriptions of a great number of injurious insects, it also contains in the introduction, an explanation of the parts of insects, and their division into orders, &c. Knowing very little on the subject before I procured the work, I have found it quite useful, as it describes many kinds found here. It was printed by White & Patten of Boston, Mass. and I suppose may be found at the book stores in Boston, or ordered from there. My copy ordered from B., cost $2.50 at Chicago. E. S. L. R. *Kendall, Ill.*

How to Set Fence Posts on Rock.—In answer to the inquiry of one of your correspondents, I would suggest the following plan: Drill a hole in the rock, and bore a corresponding hole in the bottom end of the post. Insert a round bar of iron of sufficient length and size to fill the hole, and drive down your post If you want to make *particularly fast work*, split the ends of the iron, put in a small iron wedge, and when drove home, it must stay till the iron rusts or the rock is blasted. This is the way mudsills or mill dams are bolted to the rock bottom in this country. H. Van-Ostrand. *Rock City Mills, N. Y.*

A. M. B.—Elder bushes, it is said, may be destroyed by mowing them two or three times during summer. Pruning should be done late in the fall, in winter, or in midsummer. If performed in the spring the flow of sap is apt to injure and cause the decay of the wood at the wounds.

Mushrooms.—*Minnesota.* You will find some of the English methods of cultivating the mushroom, described in the Fruit, Flower and Vegetable Gardener's Companion. We question, however, whether the En-

glish plan would be suitable to our climate, and we should be glad if some of our readers who have had experience in the cultivation of this delicious vegetable, would give us a short article on the subject.

WIND MILLS.—Halliday & Chaffee manufacture them at Ellington, Conn.

MIXING ASHES WITH PLASTER.—I have been in the habit for many years of using unleached wood ashes, mixed with about half their weight of plaster, as a manure for corn. I throw a small handful on the hill after the corn is up, and previous to the first hoeing. I think the application on my soil has generally been beneficial and profitable. But a scientific neighbor of mine tells me that, if I would apply the ashes and plaster separately they would produce a better result. He says that plaster is composed of sulphuric acid and lime, and that potash has a *stronger* affinity for sulphuric acid than lime has; hence when ashes are mixed with plaster the potash of the ashes unites with the sulphuric acid of the plaster, which neutralizes the potash and lessens its fertilizing value. Is this correct? Will such a change take place, and if it does is it injurious? It is a question of much practical interest and you will oblige at least one of your subscribers by giving definite information on the subject. H. E. *Ogden, Monroe Co., N. Y.*

A solution of caustic potash mixed with a solution of sulphate of lime (plaster) *will not* take the sulphuric acid from the lime. A solution of *carbonate* of potash *will*. Lime has a stronger attraction for sulphuric acid that potash, soda, or ammonia; but carbonic acid has a stronger affinity for lime than it has for potash, soda or ammonia, hence when *carbonate* of potash or ammonia is brought into direct chemical contact with sulphate of lime, as in solution, the carbonic acid unites with the lime and the sulphuric acid with the potash or ammonia. In this case the insoluble carbonate of lime is formed and sulphate of potash or ammonia.

Even admitting that all the potash in the ashes is in the form of a carbonate, we question whether, as you mix them, in the *dry state*, any change will take place. We believe it *will not;* and as it is more convenient to apply ashes and plaster together than separately we see no sufficient reason for adopting any other mode of application, than the one you have so long practiced with success. We should be glad, however, if you would test this *opinion* by applying on a portion of your corn field, ashes and plaster mixed, and the same quantity separately. Scientific *farmers* rather than chemists must solve most of these practical problems.

LEATHER CLIPPINGS AS MANURE.—*A. G. Shaw, Oneonta, N. Y.* In the COUNTRY GENTLEMAN of April 19, you will find an answer to an inquiry as to the value of leather scrapings, &c. There can be no doubt of the great fertilizing value of "the clippings and shavings which accumulate in a boot and shoe manufactory." But the best mode of applying them is an open question. We know of no "economical method of reducing them to a pulpy substance." Lime and ashes would decompose and reduce them, but they must not be used, inasmuch as they would drive off nearly all the ammonia. Soaking them for a few weeks in a manure tank, and then making them into a compost with barn-yard manure and loamy soil or muck is the best method of reducing them we can recommend to you. Or, after soaking, apply them directly to the soil, and plow them in. We shall be glad to hear from any of our correspondents who have had experience in this matter.

FLAX.—The legislature of Maine has made an appropriation of $500, to be awarded the coming season, in premiums to encourage the growth of flax in that state.

The Osage Orange for Hedges.

MESSRS. EDITORS—A farmer from Hadley, Mass, is making inquiry in relation to the hawthorn for fencing purposes, and also for other plants for the same purpose. It is but little I could say in favor of the hawthorn if I should undertake it; consequently, I will leave that for those who wish to advocate its qualities for that purpose. But I have a little to say to those farmers who wish to cultivate beautiful, durable and living fences, in favor of the Osage Orange. In 1852, I was traveling to the south and west about four months, and one of my objects in traveling was to learn what could be said in favor of the Osage Orange for fencing purposes. I found no objection to it by any person that had any experience in its cultivation.

Since that time, I have been engaged in raising the plants from the seed, and lining my own farm as well as my friends and neighbors, with this beautiful hedge. Its growth is rapid when young, and it will mature in four years. But I have seen it protect corn-fields in three years after the plants were set. The foliage is a dark shining green, and every leaf is guarded with a stout sharp thorn. The blossoms are very fragrant, and the fruit is large and resembles the common orange.

The seed should be sown in rows about eighteen inches apart, and the next spring they are ready to be transplanted in the hedge. My price for setting them in a hedge, is sixty cents per rod, after the ground is prepared. I would here state that a great share of the orange seed brought into this country is spurious or bad seed, owing to the manner in which it is cured or put up for market. For this reason I intend to embark for Texas in October, to procure seed that I can rely upon. If any of my friends wish to procure good seed, they can send in their orders to me. N. BANCROFT. *Medina, Orleans Co., N. Y.*

Those who wish to procure the seed of the Osage Orange, will be sure of getting a good quality by applying to H. W. PITKIN, Manchester, Conn., or to his agents. See his advertisement.

Leghorn and Spanish.

MESSRS. EDITORS—On the 4th of April, 1854, I purchased twelve hens, a cross of Leghorn and Spanish breed. Below I send you a correct account, as kept by me, of the number of eggs laid by them during the last twelve months. Their food consisted of corn, mixed ground feed and scraps from the table, with free access to oyster shells and lime. Five of the hens were in the mean time setting.

April,	197	November,	100
May,	194	December,	44
June,	105	January,	188
July,	103	February,	112
August,	173	March,	201
September,	170		
October,	157		1744

Clinton Place, N. J. R. FLEMING YELVERTON.

WASH FOR TREES.—It is said the best wash for the bark of fruit trees, is a solution of the *soda* of the shops.

Notes for the Month.

☞ In answer to numerous inquiries in regard to *Back Volumes of the Cultivator*, we will say that we have on hand the First Series of Ten Volumes (1834—1843) *complete*. Of the New, or Second Series, we have those for 1844, 1845, 1849, 1850, 1851 and 1852; while we have *not* those for 1846, 1847 and 1848. If any of our subscribers are willing to dispose of either of the last three, we will gladly give One Dollar per copy for them

The *Third Series*, beginning with 1853, we can supply in any numbers; and it offers an excellent opportunity to begin the purchase of a set, to which subsequent volumes may be added, as they appear.

Any of the above volumes, we will now send, as they belong to broken sets, neatly bound and postage *prepaid*, for $1.

☞ Some who send us the money for the *Annual Register of Rural Affairs*, desire to have it forwarded "if we have any left." We desire to give notice, not only that we "have a few of the same sort" yet on hand, but that the REGISTER is *not* a mere Almanac, saleable only at the beginning of the year, but a *Book* of permanent value, as well as containing a great variety of beautiful illustrations. We shall *always* keep it on hand. And there is not an enterprising lad who reads this paper, who might not dispose of, from a dozen upwards, in his own immediate vicinity. We send them *postpaid* for $2 a dozen—Retail price Twenty-five cents each.

☞ We cannot supply *complete sets of the* COUNTRY GENTLEMAN. We have the volumes for 1854 bound or in numbers—price of the latter $2, of the former $3.

We can no longer send the back numbers of this volume from January 1., and subscriptions will now have to commence with April 1, or the time at which they are paid, as may be preferred.—unless the subscriber chooses to take the back numbers *excepting* that for Feb. 1 which is wanting. In this case it should be so specified in ordering the paper.

LIEBIG'S RELATIONS OF CHEMISTRY TO AGRICULTURE.—A writer in the *New-York Daily News*, thus concludes a lengthy review of the work of Liebig, issued by us a few weeks since:

"We heartily recommend the perusal of this defence of the mineral manure theory to the scientific agriculturists of the State; it is worthy of its illustrious author, and is a model of scientific analysis. No agricultural library will be complete without it; every sentence is rich in that knowledge which gives the power to make two spears of grass grow where but one did before. The work is published at Albany, by LUTHER TUCKER, at the office of THE COUNTRY GENTLEMAN, and the cost is so small—25 cents a copy—as to place it within the reach of every farmer in the land."

—— This is a most delightful little treatise on a scientific topic. In the hands of ordinary men scientific discussions are generally dry and uninteresting. In the hands of such a scholar as Liebig, they are always radiant with beauty, even to the humblest comprehension. We can commend this volume for its scholarly research, and its adaptation to the needs of the farmer. *Ohio Far.*

—— This work should be read by such persons as intend to keep themselves acquainted with the various discussions in regard to the application of chemistry to agriculture.—*Boston Cult.*

—— It were well if this treatise were largely circulated and studied.—*N. Y. Times.*

FAIR OF THE NEW-YORK STATE AG. SOCIETY.—The Executive Committee of this Society met at Elmira last week, and selected the ground for holding the next fair. They have also made arrangements with the various Railroads for conveying the stock, &c., free, and passengers at reduced rates. Elmira manifests much public spirit and enthusiasm; the grounds are said to be superior to any on which the fair has yet been held, and everything promises well for the success of the exhibition.

OHIO STATE FAIR.—Our good friends in Ohio, have at length concluded to hold their State Fair this year at Columbus, September 18 to 21. The *Ohio Farmer* says: "If we have as large a crop as prospects would indicate, the next State Fair of Ohio will be the best ever held in the United States. *Let every body begin now to prepare for it.*". We would commend this advice to the farmers of our own state. The Ohio Board of Agriculture have introduced a new feature into the Premium list. Every exhibitor who draws a premium will receive, in lieu of a part of the money or plate, a copy of the *Ohio Farmer* and *Cultivator*. This it is thought "cannot fail to be popular with the people." The papers named are among the best in the country, and every farmer in Ohio ought to take both of them. We feel confident that every Ohioan with intelligence sufficient to enable him to produce anything worthy of a premium is already a subscriber, and we question if he were at liberty to take the cash next fall or the paper for the following year, whether he would not prefer the former. We trust, however, the plan will have a fair trial and prove popular.

☞ The NEW-JERSEY STATE AG. SOCIETY, is to hold its first exhibition at Camden, opposite Philadelphia.

GEORGIA STATE FAIR.—The 10th annual Fair is to be held at Atalanta, commencing on the 10th of Sept.

COL. MORRIS' CATALOGUE.—We have received Col. MORRIS' Catalogue of Stock which he offers at private sale, the present year. It is illustrated by 12 or 15 portraits of prize animals belonging to Col. M. and Mr. BECAN, and includes Short-Horn and Devon Bulls, thorough-bred Horses, South Down Sheep, Suffolk, Essex and Berkshire Swine. [See Col. M.'s advertisement.]

THE WHEAT CROP.—From all quarters the most cheering accounts are received of the appearance of the wheat crop. A large breadth of winter and spring wheat has been sown, and with a good harvest we may hope that the effects of last year's drouth will be counterbalanced by the unparelleled agricultural prosperity which even average crops cannot fail to produce.

JOURNAL OF THE U. S. AG. SOCIETY.—We are indebted to M. P. Wilder, Esq., for the *Journal of the U. S. Ag. Society* for 1854. It is a volume of some 250 pages, containing the transactions of the society at its annual meeting and at the Springfield cattle show, and reports from the state Agricultural Societies of Vermont, Michigan and Illinois. The remainder of the

Journal is devoted to a number of excellent papers on a variety of subjects interesting to the agriculturist and horticulturist. Many of these we have read with pleasure and shall allude to them in a future number.

On the whole, this volume is an improvement on its predecessors, though it is hardly calculated to advance materially the credit of the society at home, or to produce a very favorable opinion of the state of American agricultural science abroad.

We have also received Part 1 of the Journal for 1855. It is a pamphlet of 35 pages, and contains the proceedings of the society at its last annual meeting, the address of the President, &c, &c.

DEATH OF HON. C. P. HOLCOMB AND THOMAS HANCOCK.—Since the last meeting of the United States Agricultural Society, two eminent friends of rural improvement who were then present and took a warm interest in the proceedings and welfare of the Society, have been removed from their labors. Col. C. P. HOLCOMB, of New Castle, Del., and THOMAS HANCOCK, Burlington, N. J., will be mourned not only by a large circle of immediate relatives and friends, but by thousands who, like us, have known them for years as the true and tried friends of agriculture and horticulture.

☞ It argues well for the intelligence of our agricultural population, that scientific works are so extensively purchased, that publishers can afford to sell them at a cheaper rate than in any other country. Thus Boussingault's Rural Economy—one of the very best scientific agricultural works extant—is sold in England, for $4.50. Here the same work sells for $1.25. The difference in the price of Johnston's Agricultural Chemistry is also quite as great, and so it is with nearly all scientific works. LEIBIG'S last book—"The Relations of Chemistry to Agriculture"—which is here sold for 25 cents, is sold in London, as we see from the last *Mark Lane Express*, for 84 cents. In this last case, nothing but *the difference in the demand* can account for the difference in price.

CONNECTICUT STATE AG. SOCIETY.—We are indebted to John T. Andrew for the Transactions of this Society for 1854. It is a neat volume of some 318 pages in paper covers, and contains the usual reports from County Societies, which, in this instauce, are of more local than general interest. There are some valuable communications, and some which hardly merit a place in these Transactions. To some of these we may refer at a future time.

The Society appears to be in a highly prosperous condition; the receipts during the last fair at New Haven, were $7,653.97, and from all sources $12,743,20. The total expenses were $7,504.77. This is doing well for so young a society.

THE AUGUSTA ROSE.—Efforts having been made to impress upon the public the idea that this rose was not what it was represented by its proprietors—that it was indeed nothing more nor less than the well-known rose "Solfaterre,"—Messrs. THORP, SMITH, HANCHETT & Co. of Syracuse, who first introduced it, have issued a circular, in which they show, by the testimony of such men as Col. Wilder, Geo. C. Thorburn, H. W. Sargent, Thos. Rivers, the celebrated rose grower of England, and other eminent florists, that the Augusta is just what it was represented to be by its proprietors—a seedling yellow rose, quite different and in many respects superior to the celebrated Solfaterre. It is stated that this latter rose has been repeatedly sold as the genuine Augusta, and purchasers are cautioned against this imposition.

OXFORD DOWNS.—The *Wool Grower* says: "The Oxford Downs are a mongrel, produced by crossing the new Oxford and the Downs, and *bred only for the shambles*." We had supposed that, in the hands of such men as the Messrs. Druce of Eynsham, the Oxford Downs had become as distinct a breed, with as much fixity of character, as the Hampshire, or certainly as the Shropshire downs.

CLARE SEWEL READ, in his valuable Prize Essay on the Farming of Oxfordshire, speaking of a flock of these sheep says: "The rams were sold by auction; 61 were disposed of this year, 52 by sale, and 9 by hire. The average was about £12 each, a fair indication of the high position these sheep hold in public opinion." *Sixty dollars* is not a bad price for mongrel sheep bred only for the shambles.

CURE FOR GARGET.—Asa Hubbard, Middletown, Ct., writes us that he has an old cow that has been attacked with garget several times. He gives her half a table-spoonful of salt petre three days in succession in some meal, which immediately effects a cure. Another cow which would not eat the meal, was drenched with the same quantity of saltpetre dissolved in warm water; a seaton of poke-root placed in her dewlap, where it remained till the parts were much swollen, and she was cured.

A correspondent of the *Ohio Farmer*, gives the following as a sure cure for garget:

"Take raw linseed oil and rub all over the cow's bag, which, if done on the first appearance, is all that is needed generally, but two or three applications always have cured the most stubborn cases, and is easily done."

STANDARD WEIGHT OF GRAINS IN CANADA.—The following table shows the weight of a bushel of the different grains, &c., as fixed by a recent enactment of the Canadian Parliament:

Wheat,	60 pounds
Indian Corn,	56 pounds
Rye,	56 pounds
Peas,	60 pounds
Barley,	48 pounds
Oats,	34 pounds
Beans,	60 pounds
Clover Seed,	60 pounds
Timothy Seed,	48 pounds
Buckwheat,	48 pounds

PROTECTING CORN FROM BIRDS.—Noticing several inquiries and replies as to the best means of protecting corn, when planted, from the depredations of birds, &c., in your paper, I beg to give your readers a cheap, simple and efficient remedy, and much more pleasant in

its application than tar. Take one lb. of tobacco, soak it in four gallons of rain or river water a day or so; then immerse the seed in the liquid twenty-four hours, or if the farmer please, until the corn sprouts, and he can plant with the assurance that his corn will be better for the process, and that whatever men do, *birds will not chew tobacco.* H. G. FOOTE, *Sec'y St. Lawrence Ag. Soc.*

TRIAL OF MOWERS—A trial of Mowers is to take place near Rochester, N. Y. on the 5th of July, under the auspices of the Monroe County Agricultural Society.

Butter Making.

Not one pound in five of the butter sold in our cities under the name of "Goshen," &c., and very little "Country butter" is fit for human food. Butter makers should remember these few short rules:

The newer and sweeter the cream, the sweeter and higher flavored will be the butter.

The air must be fresh and pure in the room or cella where the milk is set.

The cream should not remain on the milk over thirty-six hours.

Keep the cream in tin pails, or stone pots, into which put a spoonful of salt at the beginning, then stir the cream lightly each morning and evening; this will prevent the cream from moulding or souring.

Churn as often as once a week, and as much oftener as circumstances will permit.

Upon churning, add the cream upon all the milk in the dairy.

Use nearly an ounce of salt to a pound of butter.

Work the butter over twice, to free it from the buttermilk and brine, before lumping and packing.

Be certain that it is entirely free from every particle of buttermilk, or coagulated milk, and it will keep sweet forever.

In Scotland, a syphon is sometimes used to separate the milk from the cream, instead of skimming the pans.—*Southern Cult.*

Valuable Recipes.

NEW-YORK CAKE.—1 cup of butter, 2 cups of sugar, 2 cups of flour, 6 eggs, 1 tea-spoonful of cream tartar, one-half of soda; 1 cup of raisins, and 1 of currants, can be added if you wish fruit cake, by leaving out the soda and cream tartar.

BOSTON CAKE.—1 lb. 2 oz. flour, 14 oz. sugar, 12 oz. butter, ½ lb. raisins, 4 or 6 eggs, ½ gill brandy, 1 gill milk.

COMPOSITION CAKE.—1¾ lbs. of flour, 1¼ lbs. sugar, ½ lb. butter, 4 eggs, 1 pint sour milk, a tea-spoonful of saleratus, spice and fruit to your taste.

PUFF PUDDING.—1 quart of milk, 4 eggs, 9 table-spoonfuls of flour, 1 salt-spoonfull of salt. Bake as long as any pudding.

WINE JELLY.—1½ ounces of isinglass, 1½ lbs. of sugar, 2 lemons, 1 quart of wine. Make a syrup of the sugar, and clear it by putting in the lemon, cut in slices. When you put on to boil, the isinglass must be dissolved into the syrup. When nearly cold, add the wine.

SALSIFY OR VEGETABLE OYSTER.—We could never perceive much resemblance in the taste of this vegetable to the real oyster; but we know a person who cooks it in such a manner that every one that tastes it, pronounces it delicious. The mode is as follows:—Salsify is scraped and washed; then cut into thin pieces across the roots, boiled, in just sufficient water to cover them, till they are very tender. When done, they should be dressed with vinegar, pepper and salt, and a little butter; or instead, a dressing of eggs and flour beaten together and poured over them.

Shanghais.

MESSRS. EDITORS—I noticed some time ago in your valuable paper, a call upon Shanghai raisers, to give the weight of some of the largest fowls. I have looked in every No. since, and have not seen an answer to it. Now I think that the weight of a fowl should be one of the tests of a superior breed, and the number of eggs they lay in the year another. I have a pair of Shanghais that weigh, when fat, 21 lbs.—the hen nine, and the cock twelve. They are the Pheasant breed of Shanghais. The hen commenced laying the 10th September, and continued to lay an egg every day until the 12th or 14th of March, without any intermission, which would make an aggregate of over one hundred and eighty eggs in six months. Now I should like to hear from some of your correspondents, how this will compare with the weights and laying of the best breeds. Yours respectfully, A TENNESSEAN. *Nashville.*

GARDEN SEATS.—A correspondent of the Gardeners' Chronicle says:—Every one finds great difficulty in keeping garden seats more than a year without constant painting. Gutta-percha thinly laid on, and turned round the sides and nailed, will last forever; it looks garden like, and costs no more than one painting."

Horse Powers—Threshers—Eagle Fan Mills.

ALLEN'S IMPROVED HORSE POWER. It runs uncommonly easy, and does not require more than half the elevation at the forward end, of other Powers.

THRESHERS, both over and under-shot, made in a superior manner.

EAGLE FAN MILLS, *the best and cheapest Grain and Seed Separator made.* The superiority of this Fan Mill consists,

First—In cleaning without a screen, by separating the impurities, such as chess, cockle, smut, &c., by the blast alone, consequently saving the loss of the small sound kernels of wheat which must go through a screen.

Second—An arrangement by which a part of the sound and perfect grains are separated from the rest for seeding, leaving the balance in a good marketable condition, so that the farmer need sow only such grain as contains the germ of growth.

Third—Smaller seed, such as grass and clover seed, are cleaned in the most perfect manner.

Fourth—Fans built on this plan will clean grain both in the first and second cleaning, faster and better than any others now in use.

Fifth—The cheapness and durability of its construction.

R. L. ALLEN, 189 and 191 Water-st., New-York.

May 17—w,24,26,28,30—m2t

FORBUSH'S IMPROVED
Mowing and Reaping Machine.

THIS valuable Harvester can now be had at the *NORTH RIVER AGRICULTURAL WAREHOUSE.*

Persons wishing circulars with testimonials, can have them forwarded by addressing GRIFFING & BRO.,
60 Cortland-st., New-York.

☞ The above Machine is warranted to cut from 10 to 15 acres of grass or grain per day. May 24—w8tm2t

DOMESTIC ANIMALS
AT PRIVATE SALE

L. G. MORRIS' ILLUSTRATED CATALOGUE, with prices attached, of Short Horned and Devon Bulls and Bull Calves, a few Horses, South Down Rams, Berkshire, Suffolk and Essex Swine, will be forwarded by mail (if desired,) by addressing L. G. MORRIS, Fordham, Westchester Co., N. Y., or N. J. BECAR, 187 Broadway, New York. It also contains portrait, pedigree, and performances on the turf of the celebrated horse "Monarch," standing this season at the Herdsdale Farm. May 3, 1855—w&mtf

Improved Superphosphate of Lime.

THIS superior article of Fertilizer may be had, put up in bags weighing 50, 100, and 160 lbs. each—price, $45 per ton of 2000 lbs. A. LONGETT,
34 Cliff Street, Corner of Fulton,
April 26—w6tm2t New-York.

Appleton & Alderson's Drain Tile Works,

Corner of Lydius and Snipe streets, Albany, near Mr. Wilson's Nursery.

THE subscribers are prepared to furnish Drain Tile of the various and most approved Patterns, at from $12 to $15 per 1000 pieces. The Tile are more than 14 inches in length and a larger calibre than any of American manufacture for the same prices. We warrant every Tile to be perfectly sound, to fit good at the joints so as to admit water and keep out the dirt, and to drain Land from 12 to 20 feet on each side of the drain, according to the nature of the soil.

Also, large Tile for small brooks and drains about dwellings, &c., at from $4 to $8 per 100 pieces.

Tile delivered at the docks and railroads free of cartage. Specimens can be seen at Messrs. L. & W. MERCHANT's, 71 Quay-st.

Full directions for laying Tile will be sent free to those addressing the subscribers. Orders are respectfully solicited.

Address, APPLETON & ALDERSON,
May 3—w4t 195 Washington-st., Albany, N. Y.

Thorough-Bred Short Horns.

DURHAM Bull and Heifer Calves, descended from the herds of Mr. Bates and his nephew Mr. Bell, for sale.

HERMAN WENDELL, M. D.
Nov. 23—wtf Albany.

THOMAS GOULD,

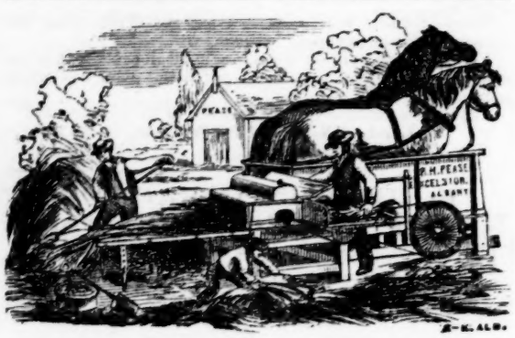
BREEDER of Durham and Devon Cattle, Leicester Sheep, Suffolk Swine, Madagascar or Lop-eared Rabbits, English Ferrets, Guinea Pigs, Choice and Fancy Poultry.

Jan. 18—w&mtf Aurora, Cayuga Co., N. Y.

IMPORTED "MONARCH."

BY PRIAM, out of Delphine by Whisker, will stand at L. G. Morris' Herdsdale Farm, 1¼ mile from Scarsdale Depot, and 24 miles from New-York by Harlem Railroad. Terms: $20 the season for mares not thorough-bred, and $50 for thorough-breds. Pasturage, $3 per month. Accidents and escapes at the risk of the owner. All business connected with the horse, to be addressed to "MONARCH'S GROOM, Scarsdale P. O., Westchester Co., N. Y." A portrait taken from life, with performances on the turf, full pedigree, &c. &c., will be forwarded by mail, by addressing

L. G. MORRIS,
March 22 Fordham, Westchester Co., N. Y.



Excelsior Agricultural Works,

Warehouse and Seed Store.

No. 369 and 371 Broadway, Albany, N. Y

THE subscriber is prepared to furnish to order a full assortment of Farm Implements and Machines, adapted to all sections of the country both north and south, among which may be found,

The Excelsior Changeable R. R. Horse Power.
" " Threshing Machines with Separators.
" " Cider Mill, Krauser's Patent.

Mowing and Reaping Machines, Grist Mills, Corn Shellers and Clover Hullers; Circular and Cross-cut saw mills adapted to the Horse Power, for cutting fire-wood, fence stuff &c.

The list of Field and Garden Seeds is complete—embracing most of the Premium Grains on exhibition at the recent winter Show of the New-York State Agricultural So. Among them is the Magnum-bonum Wheat, which is highly spoken of and apparently of great merit. Also a general assortment of Fertilizers. RICH'D. H. PEASE.

Feb. 22—w&mtf.

SALE OF
Imported Short Horned Cattle,

SOUTH DOWN SHEEP AND SUFFOLK HOGS.

I WILL sell by Auction at my residence on Wednesday, 20th June next, my entire Herd of Short Horned Cattle—consisting of about Twenty-five head of my choice animals. Nearly the whole of them are Imported, and their direct descendants.

Also about Seventy-five South Down Sheep. These are imported from the flock of Jonas Webb, Esq., of England, and their descendants.

Also, a few Suffolk Hogs, bred from the importation of J. C. Jackson, Esq.

Catalogues, with the pedigrees and further particulars, will be ready about 20th April, and can be had at the Offices of the different Agricultural Papers in this State, and Ohio Cultivator and Indiana Farmer, and by application to me.

TERMS OF SALE.—For all sums under $100, cash; over $100 to $150, three months; over $150 to $300, six months; and all over $300, six and twelve months' credit, on approved notes with interest. J. M. SHERWOOD,

April 5, 1855—w11tm2t Auburn, N. Y.

ENGLISH CATTLE,

Imported on commission by Messrs. THOS BETTS BROS., Bishop's Stratford, Herts, England—81 Maiden Lane, New-York City.

BEING much the cheapest and the only way of obtaining Stock direct from the Breeder, which will give gentlemen an opportunity of obtaining the best stock, without having to pay an exorbitant price for them in America. The firm having had forty years' experience, they feel confident of giving satisfaction both as regards price and selecting the stock from the best herds in England.

Thorough-bred Horses,	Hampshire Sheep,
Short-Horned Cattle,	Cotswold, Leicester do
Devons, Herefords, Ayrshires,	Suffolk Pigs,
Alderney Cows from Islands	Essex, Berkshire do
of Alderney and Guernsey,	Merino Sheep from Spain,
Pure bred Southdown Sheep,	Mules, do do

Messrs. Betts Bros. have appointed one of the most experienced men in England entirely for purchasing Thorough Bred Horses. They have also an agent in Spain for purchasing mules, Merino Sheep, etc. Messrs. Betts Bros have purchased a valuable patent invention which will prevent accidents occurring to cattle across the Atlantic. They can now be safely imported any time during the year. The cattle will be insured from Liverpool to New-York when desired, by charging a small per centage.

A steamer will leave Liverpool with cattle about the first of every month. The stock will be delivered at New York about six weeks from the time the order is given in America.

Circulars containing all particulars, expenses to America, and the prices of Cattle in England, may be had by applying by post to Messrs. THOS. BETTS,
or, J. M. MILLER, Agent, 81 Maiden-lane
Jan. 4—1ain—m1y. New York City.

IMPORTED "BALCO," (9918.)

THIS celebrated prize Short Horn Bull, bred by Thomas Bates, Esq., Kirkleavington, England, imported and selected by Col. Lewis G. Morris, the best breeder and importer of stock in the United State, will serve a limited number of cows on the following terms, viz., $20 the season for cows not thorough bred, and $35 the season for thorough-bred. The committee on Short Horns, at the fair of the New York State Agricultural Society, held at Saratoga Springs in 1853, speaking of this bull, says, "Your committee feel it their duty to recommend for special notice the imported bull "Balco," belonging to Messrs. Morris and Becar, an animal destined to prove a valuable addition to the Short Horns of the United States, and place that valuable breed on equal footing with any which the world can produce." "Balco" will be found at the farm of the subscriber, "Wilkinvilla," near Montgomery, Orange Co., N. Y., eleven miles from Newburgh.

Also the Young Bull "Corn Planter" will serve a limited number of cows on the following terms, viz., $10 for cows not thorough-bred, and $25 for thorough-bred. "Corn Planter" was bred by Col. J. M. Sherwood, Auburn, N. Y. Pasturage for those who wish it, at a moderate charge. All accidents and escapes at owner's risk.

Pedigrees of "Balco" and "Corn Planter," with portraits from life, furnished on application to me.

JAMES W. WILKIN,
Wilkinvilla, near Montgomery,
May 8—w8tm2t Orange Co., N. Y.

THE CONCORD GRAPE.

MESSRS. HOVEY & CO, No 7 Merchants' Row, Boston, are again sending out MR. BULL's new and superior Grape, the stock of which has been placed in their hands for sale. This very remarkable American variety is the greatest acquisition that has ever yet been made to our hardy native grapes, and supplies the desideratum so long wanted, of a superior table grape, sufficiently hardy to withstand the coldest climate, and early enough to ripen its fruit in any part of the Northern or New England States. It is four weeks earlier than the Isabella, and about two weeks earlier than the Diana. It is fully ripe from the 3d to the 10th of September, and fine specimens have been exhibited the last two years, at that date, before the Massachusetts Horticultural Society.

It is a most vigorous growing vine, perfectly hardy, with bunches of large size, handsomely shouldered, often weighing a pound, and with large, roundish oval berries, frequently measuring an inch in diameter; color very dark, covered with a thick, blue bloom; flesh soft, tender and juicy; flavor very rich and luscious, with a fine, sprightly aroma. The foliage is large, broad and thick, and the berries have never been known to *mildew*, *rot*, or *drop off*, under any circumstances, during the five years since it has borne fruit. Good judges who have tasted it, pronounce it superior to the Isabella in its ripest condition.

The following testimony we select from a multitude of letters received from pomologists and cultivavtors, who tested the grapes last autumn:

"Our Concord grapes we purchased of you last spring, have grown finely; we think it a noble grape, and will have a great run."—*George Seymour & Co., South Norwalk. Conn.*

"They gave the utmost satisfaction, and every good judge of fruit said *they were decidedly better than the Isabella.*"—*J. D. Ingersol, Ilion, N. Y.*

"Possesses, in a high degree, the properties of a perfect grape."—*J. Reynolds. Sec. Farmers' Club.*

"The most beautiful hardy grape is undoubtedly the Concord."—*J. F. Allen, in Report of Mass. Hort. Society for 854.*

OPINIONS OF THE PRESS.

"We regard this grape as an important acquisition."—*Horticulturist, Dec.* 1854.

"Its early ripening alone ought to secure it a place in every garden."—*N. Y. Tribune.*

"On the whole, an excellent grape."—*American Agriculturist.*

"As a hardy vine, and an early, large and showy fruit for market, we shall not probably find anything to compete at the North with the Concord grape."—*Country Gentleman.*

"In appearance, larger and finer than the Isabella, and quite as pleasant in flavor."—*Ohio Farmer.*

Fine, strong one year old plants ready for sale March 1, at $3 each, or $24 per doz. Plants safely packed for transportation to any part of the country. April 26—w5tm1t

Maclura or Osage Orange Hedges.

H. W. PITKIN,

Manchester, Conn., Dealer in Seeds and Plants.

IN consequence of the increasing demand for this remarkable Hedge plant, my exclusive attention is now given to the business. Seed is yearly gathered by my own agents, and may be relied upon as fresh and genuine. As many persons prefer the plants ready for setting in hedges, I have established nurseries in different sections of the country, where they are raised on an extensive scale, and in the most economical manner, and am ready to contract them in any quantity. A descriptive pamphlet on the Culture of Osage Orange Hedges, given to purchasers.

G. G. SHEPPARD, New-York—P. B. MINGLE, Philadelphia—BYRAM, PITKIN & Co., Louisville, Ky., wholesale Agents.
Apply as above. April 5—w2m2m

To Agriculturists, Manufacturers, &c.

DRAWINGS and Engravings on wood, of animate and inanimate objects, executed at fair prices and in the best tyle, by J. B. SEYMOUR,
Feb. 22—w&m3m 57 Broadway, Utica, N. Y.
N. B Portraits of animals true to nature.

Fertilizers—Established Nine Years.

KENTISH'S Prepared Guano—Price $25 per Ton. Superphosphate, No. 1, by the New-York Manufacturing Company—Price $40 per Ton. Both these articles can be had at the Depot No. 159 West Street, New-York City.
March 22—w3tm3t KENTISH & CO.

YOUNG PRESIDENT.

THIS celebrated MORGAN HORSE will stand this season for the use of Mares, at the following places:

B. Badgley's, Mechanicsville, Mondays and Tuesdays—Schaghticoke, Wednesdays—Stillwater, Montgomery's Stable, Thursdays—Ketchum's Corners, Fridays and Saturdays.

PEDIGREE.—This Horse was sired by the Steel Morgan, he by the Old Sherman, and Sherman by the Justin Morgan. Dam of Young President was sired by the Hawkins Morgan, and he by the Justin Morgan.

This Horse is a beautiful dark Bay color, weighs 1,050 lbs. and is well proportioned for bottom and speed, and moves in beautiful style: will trot a mile in less than three minutes. He has formerly been kept in Orange, Washington and Caledonia Counties, Vt, where his stock is well known, and therefore we offer the names of some of the most distinguished Horsemen in those counties concerning his stock, as the following certificates will show:

EAST CORINTH, VT., April 26, 1854.

We, the undersigned, inhabitants of Orange, Washington and Caledonia counties, Vt, testify that we have been acquainted with C. M. Huckins' Horse and his stock, for the last five years, and believe that his stock has proved better than that of any other Morgan Horse ever owned in this State, both for speed and durability, and that his Colts have been sold for higher prices than those of any other Horse's colts in this State.

E. H. Craig,	Henry Oben,
Horace Mills,	J. O. Jordan,
John Peabody,	B. C. Jones,
Robert Gray,	J. W. D Parker,
Charles Grow,	Ellis Bliss,
John Merrill,	Jos. W. Bliss,
Stephen Thomas,	Stebbin Andross,
S. H. Merrill,	Jesse Johnson,
Reuben Paige,	J. W. Clark,
M. D. Blake,	Thomas Rowland,
Amos Garland.	Daniel Rowland.

ALBANY, April, 1855.

We, the undersigned, feeling an interest in the improvement of the stock of Horses, would recommend the Morgan called YOUNG PRESIDENT, as combining the most good qualities of any Horse in our knowledge; having witnessed his speed, we are satisfied he can trot a mile in less than 3 minutes, and goes in beautiful style.

Saratoga County.	*Albany.*
A. E Kendall,	George H. Lawton,
Benj. Badgley,	C. V. Crapo,
Henry Badgley,	Harry Yates,
J. Sheffere,	Hiram Yates,
G. W. Wheeler, Vet. Surg.,	C. B. Cheever,
E. P. Fuller,	Geo. W. Chadsey.

TERMS.—Ten Dollars for the Season. To insure, as parties can agree. All Mares disposed of before the usual time of Foaling, will be considered with Foal.

L. A. CHASE, Albany, } Proprietors.
MARK FULLER, Mechanicsville, }
HOLDEN ENGROIN, Agent May 17—w&m1t

NOTICE.

PERUVIAN GUANO. As there are various substances now offering for Peruvian Guano, in the New-York market, to avoid imposition, be particular to observe that every bag of the genuine Peruvian Guano has branded upon it,

WARRANTED NO. 1.

PERUVIAN GUANO,

Imported into the United States by

F. BARREDA BROTHERS,

FOR THE PERUVIAN GOVERNMENT.

When taken in quantities from 1 to 5 Tons,.....$48
do do do 5 to 10 do 47
do do do 10 to 15 do 46

A further discount in larger quantity. 2000 lbs. to the ton.

A. LONGETT, 34 Cliff-st.,
April 26—w4tm1t Corner of Fulton, New-York.

A New and Improved

PATENT SCYTHE-SNATH,

MADE from *wrought iron*, light, firm and durable, and pronounced by very many who have used them for two seasons past, superior to any other Snath.

Manufactured only by LAMSON, GOODNOW & CO., (long known as makers of Lamson's Patent Wood Snaths,) and for sale at their Warehouse, No. 7 Gold-St., New-York, and by the Hardware and Agricultural trade generally, throughout the country. May 3—w1tm2t*

REMOVAL.

ALBANY AGRICULTURAL WAREHOUSE AND SEED STORE removed to 52 State st., corner of Green street. Albany Agricultural Works, on Hamilton, Liberty and Union street, Albany, N. Y.

TO THE PUBLIC.—A certain party advertising themselves as having purchased the entire stock in trade and machinery of the above named establishment, and as carrying on the same business upon their own account, we feel compelled to make the following statement:—

In consequence of the dissolution, and closing up of the business of the firm of Emery & Co., in the fall of 1853, their stock then on hand consisting only of Implements, Machinery and Seeds, was sold at auction. After which sale the subscribers respectively concluded a temporary arrangement with one of the principal purchasers at said sale, by which they continued the business with him, conveying the privilege of occupying their Albany Agricultural Works and Manufacturing and Selling under their patents their patented Horse Powers, Machinery, &c; also, the use of patterns and castings, names, correspondence, customers, &c., as well as superintending the manufacturing business, for which said purchaser has paid them nearly twenty-five thousand dollars to Feb. 14th, 1855, being the expiration of said agreements, at which time they withdrew entirely from all connection with him or any other parties, formed a new co-partnership with themselves and are now the sole proprietors and occupants of the above Works, Patent Rights, Patterns, &c., and the exclusive manufacturers of their celebrated Machinery made by them since they first commenced business in this city.

They have recently renewed and replaced most of their operating Machinery and Tools, and are better than ever prepared to supply promptly, their Implements and Machinery, of superior quality and workmanship.

They have opened the spacious Rooms on State street, the most eligible in the city, for the display and sale of their Machinery, Implements and Seeds, which are all new and of the most approved and complete kinds extant, instead of an accumulated stock of miscellaneous Goods and Seeds of an old concern.

The attention of a discerning public is solicited to our present stock of goods, before selecting and purchasing the coming season. EMERY BROTHERS,

May 3—w&m1t No. 52 State street, Albany, N. Y.

"FALSE IMPRESSIONS."

TO THE PUBLIC.—The Agricultural Warehouse and Seed Store HAS NOT BEEN REMOVED, as certain parties have informed the Public, but "still lives" at the OLD STAND, 369 and 371 BROADWAY, ALBANY, N. Y., where a complete assortment of Agricultural and Horticultural Machines and Implements of every name and variety, manufactured by the subscriber himself and obtained from the best manufacturers in the country, can be found. The Seeds, both Field and Garden, are all of last year's growth, and are warranted pure, and as cheap, if not cheaper, than they can be bought at any other place in the city. The Sales Rooms, for the display and sale of Agricultural Machines and Seeds, are the most spacious in the city, and the stock is certainly larger and better than at any other establishment of the kind in this part of the country. A liberal discount to the trade. RICH'D H. PEASE,

May 10—w&m1t 369 & 371 Broadway, Albany, N. Y.

Black Hawk Horse Raven.

THIS Horse will stand at the farm of the subscriber in Norfolk, Conn., called the Robbins Farm, the coming season, at ten and fifteen dollars. The oldest colts of this horse are three years old. The stock is of extraordinary promise. Raven is by Vermont Black Hawk—dam has the blood of Gifford Morgan and of Cock of the Rock.

April 19—w3tm2t ROBBINS BATTELL.

Farm Lands for Sale,

IN LOTS TO SUIT PURCHASERS.

OVER 2,000,000 OF ACRES of Selected Prairie Farm Lands, belonging to the Illinois Central Railroad Company. The price will vary from $5 to 25, according to quality, location, &c. The purchase money may be payable in five equal installments, the first to come due in two years from date of contract, the others annually thereafter—giving six years to pay for the land, with a charge of only *Two per cent per annum interest*. The first two years' interest payable in advance. The Company's construction bonds received as cash. Apply to CHAS. M. DUPUY, Jr.,

Land Agent Ill. Cen. R. R. Co.

March 15—m6t* No. 84 Lake St., Chicago, Ill.

Hay Presses, Hay Presses.

DEDERICK'S PORTABLE PARALLEL LEVER HORIZONTAL AND VERTICAL HAY PRESSES.

THESE Presses are so constructed that they can be taken apart at the manufactory, and (by the printed directions accompanying each press) put together again in a couple of hours by any two farmers, without the aid of a mechanic. They are so conveniently portable that they can be moved from one field or farm to another, as a sleigh is moved, by a pair of horses or oxen, and for convenience and power of operation they are altogether unequalled. They are now being shipped to all parts of the country, and are in every instance giving the most decided satisfaction. With two men and a boy to attend the horse, one of these machines will bale from 6 to 8 tons of hay per day, according to the No. or size of the press. Prices, from $130 to $175. For circular, with full description, apply personally or by mail to the subscribers.

DEERING & DICKSON,
Premium Agricultural Works,

May 10—w&meowtf Albany, N. Y.

G. WESTINGHOUSE & CO.

CONTINUE the manufacture of Threshing Machines Clover Cleaners, Wood Saws, &c., at Central Bridge Schoharie Co., N. Y.

We have improved our Thresher and Cleaner, (and for which we have obtained a Patent last year,) which works superior to anything of the kind in use, and has given entire satisfaction where used.

Our Horse-Power, Thresher and Separator, has the name of being the best machine in use, where known. Those wanting machines will be more likely to get them when wanted by ordering them early, as we shall not be able to make more than 100 of them this season. Last year we did not supply the demand by a large number, being unable to get them out in time.

Further information given on application by mail otherwise.

G. WESTINGHOUSE & CO.
Central Bridge, N. Y.

May 3—w22,24,26,28,30,32—m3t

SUPERIOR THOROUGH-BRED

Devon Cattle and Essex Pigs for Sale.

THE subscriber, having this day purchased from Mr. W. P. Wainright, his interest in the herd of Devon Cattle hitherto owned conjointly by them, will continue to give his strict attention to the breeding and raising of this increasingly popular breed. Having now a herd of over twenty head, bred entirely from animals of his own importation, he is enabled to offer for sale a few young Bulls and Heifers, of very superior quality.

Also constantly on hand, thorough-bred ESSEX PIGS, descended from the best imported stock.

For full particulars as to age, price, pedigree, &c., address

C. S. WAINRIGHT.

April 1—m3t Rhinebeck, Dutchess Co., N. Y.

FARM FOR SALE.

A FARM of One Hundred acres in MILO CENTER, Yates Co., N. Y. a short distance from the line of the Canandaigua and Elmira Rail Road. It is well watered by springs and a fine stream, easily cultivated—soil a fine gravelly loam, unsurpassed for either grain or grass, with exception of about 20 acres which is *choice* natural meadow land.

It has upon it a good *Dwelling House* and out Buildings—is in a good neighborhood, convenient to churches, school houses and stores, and is in every respect one of the most desirable locations in the state. For terms which will be made easy, apply to GASPER & Co., 41 Water St., New-York; Caleb Gasper, Esq., Marcellus, Onondaga Co., Geo Young, Esq., Milo Center, Elias Bently, Esq., Sandy Creek, Oswego Co., S. Booth, Esq., Branchport, Yates Co. Norman Seymour, Mechanicsville, Saratoga Co., N. Y., Judge Ellsworth, Pen Yan.

March 1—m1f—

DISSOLUTION.

THE co-partnership heretofore existing between the subscribers, under the name and firm of H. BLANCHARD Co, is this day dissolved by mutual consent. Either party will sign in liquidation. HOMER BLANCHARD.
T. M. BURT.

Kinderhook, March 31, 1855.

NOTE.—All communications relating to the business of the old firm of H. BLANCHARD & Co., should be directed to Kinderhook, N. Y.

CO-PARTNERSHIP.

The subscribers have formed a co-partnership under the name and firm of H. BLANCHARD & Co. for the transaction of a Commission Wool business in the city of Hartford, Conn.

HOMER BLANCHARD, Kinderhook.
LAWSON C. IVES, Hartford.

Hartford, March 31, 1855.

CIRCULAR.

It is now ten years since the subscriber started the WOOL DEPOT system, it being the first attempt at a close classification of Wool in the fleece in this country; four years alone, and six years in company with Mr. T. M. BURT, who now retires from the business. His experience but confirms the position which was taken by the friends of this enterprise in its infancy; that there is no other system yet devised, which is so appropriate to meet the wants and necessities of the wool-grower, dealer or manufacturer, as the close classification of Wool in the fleece. The manufacturer can obtain the grade he wants, and the seller of Wool the relative value of each grade, quality and condition considered; thus affording facilities and encouragement for improvement.

The present location is not deemed by himself, and many of the friends and patrons of the Depot system, as favorable for effecting ready and quick sales as a more central one, easy of access, and in the immediate vicinity of manufacturing establishments. He has therefore formed a copartnership, as above stated, and will remove the Kinderhook Wool Depot business to the city of Hartford, Conn. There is annually manufactured within four hours' ride of that city, more than twelve millions pounds Wool; and within six hours' ride, more than one-half of all the wool worked by manufacturers in the United States.

The same system of classification will be continued as practiced at Kinderhook. Also the services of the same sorter retained. The same charges for receiving, sorting, storing and selling, viz: one and a half cents per pound and the insurance, when sales are made for cash as heretofore. In order to possess additional facilities for selling, sales will be made on time, when they can be more readily effected or better prices obtained, than for cash. In all such cases where time sales are made, the payment will be guaranteed, and the usual guarantee commission of two and a half per cent. on the amount of sales, will be charged additional.

Advances will be made in cash or by acceptances, as may be agreed upon. Sacks furnished to consigners by charging 25 cents each for their use.

Thankful for the liberal patronage and confidence bestowed, the subscriber respectfully solicits a continuation of past favors, and confidently hopes, and firmly believes, that he can better promote the interests of his consignors by a change of location, than by remaining where he has formerly been.

H. BLANCHARD.

NOTE.—After six years' experience in selling Wool at Kinderhook, I fully concur in the propriety of H. BLANCHARD's decision to change his location, and remove the Kinderhook Wool Depot business to the city of Hartford, believing that the interests of our former consignors will be promoted, by making more ready sales, and avoiding the delays consequent upon our location, and to a rigid adherence to the cash system.

T. M. BURT.

REFERENCES.

George Beach, Esq., President Phœnix Bank; H. A. Perkins, Esq., President Hartford Bank; Messrs. Day, Owen & Co., Merchants; Messrs. Day, Griswold & Co., Merchants; Messrs. Collins & Brothers, Merchants, Hartford, Conn. Messrs. Hacker, Lea & Co., Merchants, Philadelphia; Messrs. Freeland, Stuart & Co., Merchants, New-York; Dr. J. P. Beekman, President Bank Kinderhook, Kinderhook, N. Y.

May 1—m3t

BLACK HAWK.

THE original VERMONT BLACK HAWK will serve a limited number of mares the coming season at $100 each.

Gentlemen wishing to secure the services of this horse, must send in their letters at once.

Good pasturing at 50 cents per week. All accidents and escapes at the risk of the owner. DAVID HILL.

March 1, 1855—m5t Bridport, Addison Co., Vt.

COPARTNERSHIP.

C. M. SAXTON, No. 152 Fulton Street, has this day associated with himself, as copartner in the PUBLISHING BUSINESS, AUGUSTUS O. MOORE.

The business will hereafter be conducted under the firm of C. M. SAXTON & CO.

New-York, February 21st, 1855.

NEW BOOKS.

C. M. SAXTON & CO.,

AGRICULTURAL BOOK PUBLISHERS,

No. 152 FULTON STREET, NEW-YORK, have in press:

I.

THE PRACTICAL LAND DRAINER;

Being a Treatise on Draining Land, in which the most approved systems of Drainage are explained, and their differences and comparative merits discussed; with full Directions for the Cutting and Making of Drainage, with Remarks upon the various Materials of which they may be composed. With many illustrations. By B. Munn, Landscape Gardener. Price 50 cents.

II.

The Practical Fruit, Flower, and Kitchen Gardener's Calendar.

By Patrick Neill. Edited by G. Emerson, M. D., Editor of "Johnson's Farmer's Encyclopedia." With Notes and Additions, by R. G. Pardee, Author of "Manual of the Strawberry Culture." With illustrations. Price, $1.25.

III.

DOWNING'S LANDSCAPE GARDENING.

C. M. SAXTON & Co., No. 152 Fulton street, have in press a new and elegant edition of a treatise on the Theory and Practice of

LANDSCAPE GARDENING,

Adapted to North America, with a view to the Improvement of Country Residences, comprising Historical Notices and General Principles of the Art, Directions for Laying Out Grounds and Arranging Plantations, the Description and Cultivation of Hardy Trees, Decorative Accompaniments to the House and Grounds, the Formation of Pieces of Artificial Water, Flower Gardens, etc., with Remarks on Rural Architecture, by A. J. DOWNING. Price, $3 50.

JUST PUBLISHED,

Youatt and Martin on the Hog,

A Treatise on the Breeds, Management, and Medical Treatment of Swine, with directions for Salting Pork, and Curing Bacon and Hams. By William Youatt, V. S. Illustrated with engravings drawn from life. Edited by Ambrose Stevens. Price, 75 cts.

Pardee on Strawberry Culture.

A Complete Manual for the Cultivation of the Strawberry; with a description of the best varieties.

Also, Notices of the Raspberry, Blackberry, Currant, Gooseberry and Grape; with directions for their cultivation, and the selection of the best varieties. "Every process here recommended has been proved, the plans of others tried, and the result is here given." With a valuable Appendix, containing the observations and experience of some of the most successful cultivators of these fruits in our country. Price, 50 cents.

Elliott's American Fruit Grower's Guide in Orchard and Garden;

Being a Compend of the History, Modes of Propagation, Culture, &c., of Fruit Trees and Shrubs, with descriptions of nearly all the varieties of Fruits cultivated in this country; and Notes of their adaptation to localities, soils, and a complete list of Fruits worthy of cultivation. By F. R. Elliott, Pomologist. Price, $1.25.

The above books will be sent, Postage paid, to any part of the Union.

April 5—w3tm2t

THE SHERMAN MORGAN

WILL stand, this season, at Lancaster, N. H. He is grandson of the *original* Justin Morgan, being the last horse sired by the celebrated "Old Sherman." Color, dark chestnut; weight, 1050; age 19½. In every quality of a perfect horse, he excels, and does high credit, in himself and in his stock, to his *illustrious* origin.

Terms $20: warrant. See bills.

A. J. CONGDON,

May 3—w2m1t Lancaster, Coos Co., N. H.

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MOWERS AND REAPERS, &c.

KETCHUM'S One Horse Mower, cuts 3 feet swath—Two Horse ditto, cuts 4 feet 8 inches—Allen's improved Mower; Hussey's and M'Cormick's Reapers; Atkins' Reaper with self Raker attached.

Emery's, Taplin's, Bogardus', Trimble's and other Horse Powers.

A complete assortment of Agricultural and Horticultural Implements of all kinds. Field and Garden Seeds.

Guano with Peruvian Government weight and brand on each bag, Improved Superphosphate of Lime, &c.

R. L. ALLEN,
189 and 191 Water St.,
May 10—w23. 25,27,29—m2t. New-York.

P. D. GATES,

COMMISSION MERCHANT, and dealer in *Agricultural Implements and Machinery*, No. 12 BROADWAY, NEW-YORK.

☞ Ketchum's Mowing Machines, Hay Presses, Horse Hoes, Cultivators, Plows, Straw Cutters, Corn Shellers, Reapers, Horse Powers and Threshers, Combined Threshers and Winnowers, and other Agricultural Machines.

May 24—m12t*

Only $48 per Ton.

NO. 1 PERUVIAN GUANO

CAN now be had at the

North River Agricultural Warehouse

at the low price of $48 per ton For the benefit of farmers wishing to purchase this valuable manure, we would say that we do not keep the prepared, or No. 2 Guano. There will none but No. 1 Peruvian be found at our Warehouse.

GRIFFING & BRO.,
May 24—w8tm3t 60 Cortland-st., New-York.

RURAL PUBLICATIONS.

THE attention of all persons interested in rural pursuits, is invited to the following publications:

THE COUNTRY GENTLEMAN—a Weekly Journal for *the Farm, the Garden and the Fireside*—forming yearly two large and beautiful quarto volumes of 416 pages each. Price, $2 00 a year. This is, beyond question, the best agricultural journal published in this country. Specimens sent to all applicants.

THE CULTIVATOR—a Monthly Journal for the Farmer and the Horticulturist, beautifully illustrated, and forming an annual volume of nearly 400 pages, at 50 cents a year.

THE ILLUSTRATED ANNUAL REGISTER of RURAL AFFAIRS for 1855, embellished with more than *One Hundred Engravings*,—1 vol. 12 mo. 144 pp.—price, 25 cents in paper covers—bound, 50 cents—*sent prepaid by mail.*

RELATIONS OF CHEMISTRY TO AGRICULTURE, and the Agricultural Experiments of Mr. J. B. Lawes, a new work by Prof LIEBIG, just published, price 25 cents—sent prepaid by mail.

☞ Specimens and Prospectuses sent to those disposed to act as Agents. Address the publisher,

LUTHER TUCKER, *Albany, N. Y.*

PERUVIAN GUANO, NO. 1,

WITH Government Brand and weight upon each bag, in bond—at $40 per ton of 2000 lbs. This article is taken from the lower part of the cargo—per ships Surprise and others—is somewhat damp—considered by many farmers equally good as the dry. For sale at the Agency.

ANTOINE LONGETT,
No 34 Cliff Street, corner of Fulton,
May 17—w4tm1t New-York.

Hallenbeck's Improved Mowing Machine.

THE subscriber respectfully calls the attention of farmers to his Mowing Machine. A sufficient number of them were built last season to thoroughly test their value and capabilities. They not only gave decided satisfaction but also commanded the approbation of those who used them.

These Machines are all manufactured in such a manner that a Reaper can be attached at the shortest notice, with side delivery, back of the wheel, with the help of one man and a boy. It is capable of cutting from 12 to 15 acres of grain in one day, and left in bundles ready to bind, and will cut the same number acres of grass with the help of one man.

The Machine can be changed from a Mower into a Reaper, with the attachment, in ten minutes, by changing 3 bolts; the machine is all very simple, and not liable to get out of order.

Price of Mower and Reaper,.....$120 to $125
Price of Mower,.....$105 to $110

The undersigned Farmers, of the town of Coxsackie, Greene County, New York, hereby cheerfully give testimony to the excellence of Hallenbeck's Mowing Machine. each of us having used and thoroughly tested one of them last season. His Machine, we know by well tried experience, cuts clear and thoroughly, and without clogging, in all kinds of grass, heavy and tangled. We do not hesitate in emphatically affirming that it will do all this, with one-third less labor to the horses, than that required to operate any other Mower ever brought into use:

Nath'l Burrows,	Geo. Van Schaack,
Wm. Armstrong,	Andrew G. Van Bergen,
C W. Hallenbeck,	William Simpson,
Matthew Spoor,	Isaac Smith.

For further particulars address the inventor, shop 64 & 66 Church street, Albany, N. Y.

May 17—w4tm1t MARTIN HALLENBECK.

Green Mountain Black Hawk.

(*Formerly known as Vermont Black Hawk.*)

THIS Celebrated stallion will stand for mares the ensuing season, on Mondays and Tuesdays, at the stable of the subscriber—Wednesdays and Thursdays at his stable in the village of Greenville—on Fridays and Saturdays at J. Aley's, in the village of Rensselaerville. Terms, $10 the single leap—$15 the season—and $20 to insure.

M. WICKES.
B. F. WICKES.
South Westerlo, Albany Co., May 10—w2tm1t*